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ABSTRACT

This final report relates to student socialization through a bilingual (Spanish/English), bicultural program involving 6 second grades in 3 schools of Phoenix, Arizona, for the 1970-71 school year. As reported, the major objective of the program was to develop and implement a group process approach to bilingual education; in addition, classroom instructional personnel were trained by site coordinators. Program success was regarded as outstanding in classrooms having strong administrative support for the program; partial success was achieved in overall efforts to create classroom enviroments and appropriate activities to facilitate small group interaction. The relatively unsuccessful aspects of the program were attributed to lack of (1) bilingual teachers, (2) a true heterogeneous student population, and (3) supporting administration. The document contains discussions of program rationale, the group process approach and procedures for implementing it, training and research procedures, and bilingual and bicultural activities; results, evaluation, a summary, and recommendations are also provided; and appendices include tabular summaries of the training evaluations, a checklist for program classrooms, noted reactions to various program components, results of analysis of variance for the Peabody Vocabulary Test and the Artola-Stewart Spanish-English Vocabulary Test, selected language samples, a composite of the parent questionnaire; a description of the teacher's manual, and the Natural Method of Language Acquisition Checklist. (MJB)

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ARIZONA CENTER FOR EARLY CHILDHOOD EDUCATION
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FINAL REPORT

1970-71

BICULTURAL SOCIALIZATION PROJECT: A GROUP PROCESS APPROACH TO BILINGUAL INSTRUCTION - TITLE VII

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Submitted August 1971

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PREFACE

The work reported herein was performed pursuant to a contract with Wilson School District No. 7, Phoenix, Arizona which was supported by a grant from the Bilingual Branch of the Office of Education, U.S. Department of Health, Education and Welfare (No. OEG-0-9-12011-3465, Project No. 12-0066). The Arizona Center for Early Childhood Education, College of Education, University of Arizona contracted with the school district to perform training, program development and research in connection with the above named grant.

INDIVIDUALIZING BILINGUAL, BICULTURAL INSTRUCTION

I. INTRODUCTION

During the school year of 1970-71 a bilingual, bicultural program has been carried out in six second grade classrooms in three schools in Phoenix, Arizona. The major objective of this program has been to develop and implement a group process approach to bilingual education.

II. RATIONALE

The rationale for such an approach to bilingual education is basically derived from observations and studies of natural language acquisition. An imitation-reinforcement theory of language learning (Mowrer, 1960; Skinner, 1957) provides a theoretical base for this approach and suggests techniques and procedures for teaching a second language to young children. This theoretical model has been used to develop a bilingual-bicultural program aimed at simulating the conditions of natural language acquisition in the classroom and with the major overall goal of facilitating program children's language development in both Spanish and English. Language is considered so important not only in itself but because of the close relationship between language and cognitive development. Jerome Bruner (1964) has suggested that language is a most important determinant in concept formation and that "...language provides a means, not only for representing experience, but also for transforming

it." Russian literature has shown this same emphasis on language. For example, Luria and Yudovich (1959, p. 12) suggest that "...a language system involves a reorganization of all the child's basic mental processes...." Vygotsky (1962) and Luria (1961) describe language as a second signal system and suggest that the internalized linguistic system both shapes and transforms direct experience.

A young child normally learns his native language with little difficulty as he hears language spoken (modeled) in the context of his daily activities and as he is positively reinforced for vocalizations which approximate the adult speech patterns of these models. It is, therefore, highly probable that children from different language backgrounds, if exposed to one another's language in an environment which encourages and reinforces both languages equally, will learn the second language naturally and easily.

However, a classroom environment must be designed which will reproduce as closely as possible the optimal conditions of natural language acquisition. First it is absolutely essential that both languages be given equal importance and value. If one language, for example English, is obviously given more significance, the Spanish speaking child will be hesitant to use his language and may feel that his language is inferior. Also, the English speaking child will not be motivated to learn Spanish. Homogeneous grouping in which children are separated on the basis of language background and skills must be carefully avoided. Equally important is the provision of situations, activities and communication patterns which maximize the children's opportunities for language expression and for hearing

oral language. Finally, both languages must be modeled in the context of classroom and playground activities and the child's verbalizations in either language must be positively reinforced. Positive reinforcement may take the form of social approval by adults and peers or may arise from more natural reinforcing consequences such as questions being answered, requests granted, materials provided, gratifying peer relationships maintained, et cetera. From these assumptions, and utilizing the imitation-reinforcement theoretical base, a bilingual-bicultural program was developed.

III. THE GROUP PROCESS APPROACH

A small heterogeneous group approach to classroom instruction was chosen because it seemed to offer the greatest potentialities for environmental and psychological facilitation of language learning via the natural method. There were several reasons for structuring the classroom environment in this manner.

1. In small groups (no more than 5 or 6) children are provided with many more opportunities to practice speaking. Obviously learning a language requires that that language be practiced intensively. The small group approach provides a behavioral setting which tends to stimulate and maximize speech.

2. There are more frequent opportunities for peer teaching and modeling. Spanish speaking children are mixed with English speaking and the children encouraged to teach and learn from one another. The situation increases the availability of language models for both languages.

3. Children are more motivated to use language in the

small groups in order to initiate and maintain social and academic interactions.

4. Small group activities can more readily be designed to stimulate increasingly complex verbal responses from all of the children. In large group activities the teacher and a few children may do most of the talking.

5. Manipulatory activities with concrete materials can be provided much more easily and frequently in the small group situation. Cognitive development is fostered by encouraging and reinforcing children for verbalizing about their activities and by teaching them important classification, categorization and problem solving skills in relation to the materials.

6. Small group instruction can be used to promote the development of socialization skills such as cooperation, leadership, planning, information-seeking and leadership. These are all skills whose execution requires language and which serve to increase children's competence in both social and academic functioning.

7. The heterogeneity of the groups and the encouragement of children helping and learning from one another increase the positive feelings children have about one another and about themselves. Feelings of failure are avoided and the social and intellectual stratification which result from homogeneous grouping do not occur.

IV. GENERAL PROCEDURES

A task analysis of the group process approach revealed needed changes in several components of the existing educational system. The training program for the project staff was developed

from this analysis and was designed to implement the desired changes. Although all of these system components are closely interrelated and even interdependent they will be discussed separately for purposes of clarification.

A. CHANGES IN CLASSROOM PHYSICAL ENVIRONMENT AND LEARNING ACTIVITIES

The strong effect of environmental stimulus conditions or behavioral settings on human behavior is well known to educators and psychologists, but the knowledge is often not utilized in actual classroom practice. If a group process approach is to function successfully the environment must be patterned and structured appropriately. The environmental arrangements are therefore focused on establishing behavioral settings which maximize language opportunities - both Spanish and English.

Group size is one environmental variable which logically exerts an effect on language behavior. The increased opportunities for speech in the small group situation are obvious. Thus, the first step in establishing an optimal room environment is to provide furniture arrangements which will accommodate small groups of four to six children at a time. Tables arranged with movable chairs are ideal, but individual desks and chairs can be clustered if necessary.

Learning Centers which provide a wide variety of activities and materials and arranged for use by only 5 or 6 children at a time provide behavioral settings which encourage individual contacts between peers and between children and adults. Wetzel (1968) described how important varied activities are in ensuring

that skills learned in one situation will generalize to other situations. He pointed out that teaching the same skills in a variety of settings will encourage this generalization process. Learning Centers can be developed around curriculum areas such as Reading, Math, and Science or can be organized more in terms of specific current projects and interests. The activities in the centers are changed frequently as soon as all children have had a chance to participate. The small group activities motivate and encourage language and social interaction and permit more language practice than does the traditional classroom environment. A more complete description of the transformation of the room environment and the use of Learning Centers will be provided in a separate manual which is presently being developed for use by teachers. Small group activities appropriate for the Math Center and for the Science Center are also described in separate manuals and are enclosed with this report.

Materials must be readily available to the children as the groups often operate independently and should not have to wait for the teacher to pass them out. A large variety of manipulatory materials is necessary since categorization and classification experiences are emphasized.

The importance placed on language is further evidenced by the abundant display in the classroom of children's written language. These may be stories the children have written themselves in either Spanish or English or they may be dictated by the children and written down or typed by an adult. Books written by the children can be compiled from these individual stories.

The physical environment will also demonstrate in a variety

of ways the importance of the Spanish language and culture. Specific methods for accomplishing this objective have been evaluated during this project and the description of these is in the process of further refinement.

B. CHANGES IN CHILDREN'S BEHAVIOR

The "informal" or "open" classrooms which have received so much public attention recently (Silberman, 1970) are beginning to emerge as a reaction to the "oppressive", "grim" and "joyless" classrooms described by Silberman as so prevalent in U.S. education. The revitalized atmosphere in these classrooms is impressive, but in some cases intellectual standards seem to have been abandoned in an over emphasis on individuality. If children are to develop optimally in more open, informal classrooms which have been organized around the group process approach, they need to learn certain skills not usually specifically taught in schools. Skills such as cooperation, leadership, information seeking, self-selection, planning and group participation are difficult to acquire in the traditional educational system. Perhaps they are not even needed in such a system, since the authoritarian, teacher-dominated classroom environment places few demands on children for the exercise of such skills. However, in the group process approach a much higher level of child effectiveness is required. When the emphasis upon the accumulation of information is subsidary to the development of more basic cognitive processes, the educational system must begin to move in the direction of facilitating and teaching new behaviors to children and must provide multiple opportunities for children to practice these new behaviors.

Small group organization will not automatically ensure that group members will function effectively. However, this approach does create a more optimal environment for teaching the behaviors which will improve both group functioning and individual skill development. In this project recognition of this need for change in children's behavior moving them toward more autonomous functioning led to the design and development of a "Group Participation and Leadership Training Manual" for teachers. This manual, which now is in the process of further refinement, was used in several project classrooms to teach children very specific skills demanded by the small group situations. Interpersonal skills and group process skills were emphasized in these lessons and children engaged in guided practice of the behaviors they were to use in the small group settings.

The teachers and aides who used this manual were extremely enthusiastic about the effects on children's behavior and reported that the groups functioned much more effectively following this training. Project staff now feel that this type of training should be given to the children prior to initiating the group process approach in a classroom. Skills which children need for the full development of human effectiveness, skills such as creativity, leadership, independence, helping and respecting others, curiosity, decision making can all be fostered in the group process approach. Our experience in defining some of these skills in behavioral terms and then proceeding to teach the skills directly has been most successful.

C. CHANGES IN TEACHER BEHAVIOR

Probably the single most important component of the group

process approach is the teacher. It is her skills and dedication which will determine its' success or failure. When the teacher relinquishes her role as an imparter of knowledge and begins to view the learning process as something beyond the mere accumulation of information, she must establish a new and more challenging role for herself. The environmental changes described earlier cannot be accomplished except by the efforts and skills of the professional teacher. This teacher must design, organize and manage an environment or "developmental milieu" which will facilitate learning. The importance of this environment or milieu is well described by Bruner (1964) "What is significant about the growth of the mind in the child is to what degree it depends not upon capacity but upon the unlocking of capacity by techniques that come from exposure to the specialized environment of a culture." The challenge to the teacher in a bicultural classroom is then to create two such specialized classroom environments, in this instance representing both the Spanish and the English cultures.

The training program for the teachers and aides in this project had, therefore, a central focus evolving from this knowledge concerning the significant effects of environmental events upon behavior. The creation of a learning environment which offers positive experiences for children was considered essential to this program. In order to provide this positive milieu the teachers needed to develop skill in providing positive consequences for children's academic and social behaviors. The teachers needed to understand the child's current level of skill development and work from that level using positive reinforcement

to increase that skill level whether academic or social. No child should "fail"; a failure, represents a failure of the educational system. The cummulative damaging effects of fear of failure, punishment, and shame upon a child's psychological development must be understood. This understanding is even more crucial in the case of a child from a minority group or economically deprived background who may arrive at school with a background dissimilar to the dominant middle-class culture. Providing daily, frequent, successful learning experiences for every child should thus be the teacher's major objective, and the skills to do this should be the focus of a training program.

The skills needed to enable the teacher to create this positive learning environment were analyzed as follows:

(1) Skills in organizing the physical environment to facilitate small group instruction.

(2) Skills in organizing materials into learning centers.

(3) Skills in providing small group and individualized activities based on specific objectives and skill levels of the children.

(4) Skills in modeling language, both Spansih and English, and extending and elaborating the children's language, both Spanish and English.

(5) Skills in using positive reinforcement techniques to improve children's academic and social functioning.

(6) A knowledge of the Mexian-American culture and the skills to implement and extend this culture in the classroom setting.

(7) Skills in organizing small group activities so that peer teaching occurs.

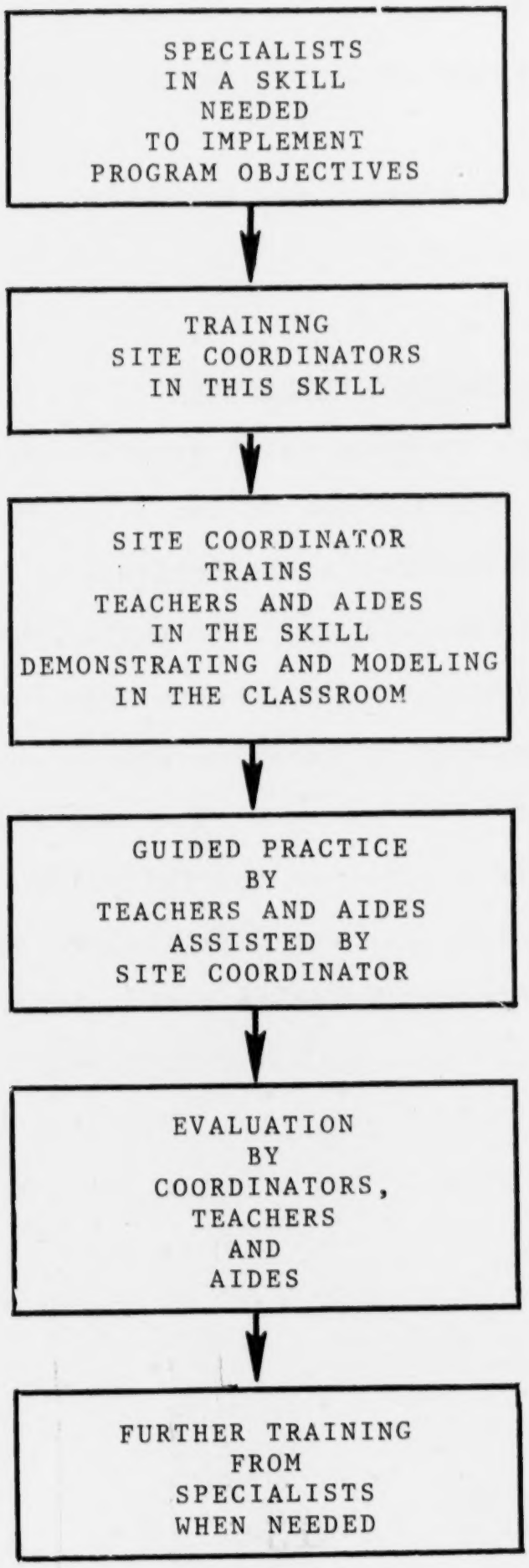
(8) Skills in identifying and teaching socialization skills such as cooperation, leadership, task persistence, self-management, information seeking and group participation.

The training program was organized to promote the development of these skills.

V. SUMMARY OF TRAINING PROCEDURES

The model of training which evolved during this project relied heavily upon the use of the site coordinator as a trainer of the classroom instructional personnel. Program objectives were defined in terms of specific skills needed by teachers and aides and then the coordinators were trained both in these skills and in methods of training others in the skills. The training is then taken directly into the classroom by the site coordinator. The diagram on the following page describes this procedure more clearly. One well trained site coordinator could probably work effectively in this training role with six teachers.

T R A I N I N G M O D E L



A. ROLE AND TRAINING OF SITE COORDINATOR

The site coordinators were, in their role as trainers, provided with more intensive training than were the teachers and aides. Their training was accomplished through special workshops, training meetings, demonstrations and discussions with project staff and consultants.

The methods used by the site coordinators to train the teachers and aides were the following:

(1) Informal Meetings

In these meetings the site coordinator offered new materials and activities, explained and clarified instructional and management techniques, planned with the teachers and aides on ways to implement program objectives and discussed data from the various behavioral observation schedules. These meetings were also used to encourage and reinforce the teachers in their participation in meeting program objectives. In some sites the principal was also involved.

(2) Modeling and Demonstrations by the Site Coordinator in the Classroom

This training technique is probably one of the most effective, since a common complaint about workshops, seminars and lectures is that participants are unable to perceive the relationship between the content of these activities and classroom practice. Using this technique the site coordinator actually goes into the classroom and demonstrates for the teacher and aide the ways in which the training can be applied in the classroom setting.

These demonstrations have been conducted in the project in several ways. The site coordinator has acted as the teacher of a particular classroom activity demonstrating specific skills with the teacher and aide observing. Also, and perhaps more effectively, two site coordinators have taken over an entire classroom for a day or two one acting as teacher and one as aide while the regular teachers and aides observe. They demonstrate such activities as teacher-aide planning; arrangement of the classroom into learning centers; small, heterogeneous group activities; and group evaluation.

Particularly valuable have been the bilingual-bicultural activities demonstrated in the classrooms by the coordinators. The coordinators were able to help incorporate the Spanish language into the classroom and demonstrate activities which made Spanish important in the classroom. These procedures will be described more fully in a later section of the report.

Following classroom demonstrations, the site coordinator planned with teachers and aides for future activities to extend and reinforce those which had been modeled. Teachers and aides were asked to practice the techniques which had been demonstrated and to evaluate their effectiveness.

(3) Video-Tape Observations and Evaluation

The video tapes which were obtained regularly in project classrooms were also used in the training program. The site coordinators met with the teachers and aides to

review the tapes and evaluate their own effectiveness in terms of meeting project goals. A Self-Evaluation Form was developed and used for this purpose. The coordinators all reported difficulty in finding time to view and evaluate tapes and a lack of interest by the teachers in this process.

(4) Monthly Evaluations

A Checklist for Bilingual, Bicultural Classrooms was developed and used once a month to evaluate the teacher's progress in meeting the project objectives. The site coordinator and the teacher met together to discuss and complete the checklist. The procedure served as a regular reminder of project goals and provided an opportunity for the site coordinator to clarify goals for the teacher. The time was also often used to discuss techniques for implementing the goals into the classroom. The coordinators reported an initial lack of interest in this procedure by the teachers but all felt that it helped teachers in meeting project objectives.

(5) Assisting With Other In-Service Training

As their training progressed the site coordinators began to assist the training staff and project administrators in planning and developing the in-service training program for teachers and aides. They assisted in planning and conducting several aide workshops.

(6) Problems

Difficulties were encountered in some sites due partially to misunderstanding regarding the role of the site coordinator. An attempt to utilize the site

coordinator as a third teacher was an initial response in some instances. However, this problem was resolved once the role became more clearly understood and established. Other difficulties arose due to a lack of harmony between project objectives and school administrative or curriculum objectives. These difficulties were never fully overcome in one site.

B. WORKSHOPS AND SPECIAL TRAINING FOR TEACHERS AND AIDES

In addition to the site coordinator workshops the training staff and consultants presented six total project workshops and four teacher aide workshops. These workshops were all planned to promote the development of the specific skills needed to implement the project objectives. These skills were listed earlier in part IV-C. Those workshops which were judged most useful are described in separate manuals.

A project consultant conducted a training program in behavioral teaching techniques utilizing video tape feedback. This was judged quite successful by the teachers who volunteered to participate. Resultant changes in teacher's reinforcement practices in the classroom are reported in a later section.

VI. SUMMARY OF RESEARCH PROCEDURES

A. ADMINISTRATION OF TESTS AND QUESTIONNAIRES

(1) The Artola-Stewart Spanish-English Vocabulary Test, developed by Mrs. Adela Artola Stewart, Project Training Coordinator, measures basic vocabulary in Spanish and English. A vocabulary production score for both Spanish and English assesses the individual's relative proficiency in both languages. This test was

administered on a pre and post basis to the children in the project and to a group of control children at each site.

(2) The Peabody Picture Vocabulary Test, a measure of English vocabulary comprehension was also administered to program and control children at the beginning and end of the school year.

(3) The Boehm Test of Basic Concepts, which measures the level of mastery of concepts considered necessary for achievement in the first years of school, was administered only to program children at the beginning of the school year. It was not administered at the end of the year because of the high scores achieved on first administration.

(4) Parent Questionnaire

In an effort to determine the attitudes and desires of parents in the local community concerning their children's education a Parent Questionnaire was developed. This questionnaire was mainly concerned to discover parents' attitudes about the teaching of Spanish, and the incorporation of multi-cultural activities into the classroom and also to determine the extent to which the children heard Spanish at home. The interview was conducted in the homes of a representative sample of project children (the sample included Mexican-American, Black and Anglo families) by a bilingual interviewer.

(5) Language Sampling

In several project classrooms the site coordinators

obtained children's language samples early and late in the school year. Comparisons between these two samples will yield information about language development.

Results from the use of all of the above measuring instruments are summarized in Part VIII of this report.

B. BEHAVIORAL OBSERVATION SCHEDULES

One of the objectives of the research program was to develop instruments for measuring changes in child and teacher behaviors and in classroom environment. A precise measurement of such changes should prove useful in evaluating program effectiveness. Eleven behavioral observation schedules were developed by project personnel. Most of these were fully described in the mid-year progress report. Some of these schedules were found much more useful than others. More detailed descriptions of these schedules and their uses may be found in a separate manual accompanying this report. Data from the use of the schedules is summarized in the Results Section. A brief description of each schedule follows:

(1) Teacher Reinforcement Practices Schedule

This schedule was used to measure both teachers' and aides' use of contingent verbal praise in the classroom.

(2) Aide Activity Schedule

This instrument was used to determine the percentage of time which the aide spent in several major categories of activities. Of most concern was the amount of time she spent interacting with children compared to all other activities.

(3) Spanish Usage Schedule

This instrument was used to record the frequency of children's use of Spanish in the classroom and on the playground.

(4) Small Group Activity Schedule

This schedule measured the frequency of small group activities in the classroom and whether or not child leaders were used in the small groups.

(5) Classroom Checklist

The checklist was devised for the purpose of describing the classroom physical environment and instructional organization.

(6) Daily Events

This schedule was used to summarize on a daily basis a variety of classroom events, including free choice behavior, small group activities and Spanish usage.

(7) Social Interaction Schedule

This schedule measures social behavior for individual children. Proximity to and social interaction with both adults and children are recorded.

(8) Question Asking Behavior Schedule

This schedule was used to record the frequency of children's question asking behavior in several different stimulus conditions.

(9) Task Persistence and Disruptive Behavior Schedule

This form was used to record the frequency of disruptive and "on task" behavior of individual children.

(10) Leadership Checklist and Leadership Activity Schedule

These two schedules record several leadership and group participation behaviors in the small group settings.

C. EVALUATION OF TRAINING

After each workshop trainees were asked to evaluate the workshop in terms of its effectiveness in helping them to achieve project objectives. Also, the site coordinators completed a questionnaire evaluating the overall training program. A summary of the results of these evaluations is included in Section VIII of this report.

D. SELF-EVALUATION

(1) Checklist for Bilingual, Bicultural Program Classrooms

This checklist was completed on a monthly basis by teachers and site coordinators to evaluate progress toward the program objectives. Data from this checklist are summarized in Section VIII.

(2) Self-Evaluation Form for Teachers and Aides

This form was devised for self-evaluation of a specific lesson, video-tape sequence, or a full days teaching. It was not used on a regular basis, but was available to be used whenever program personnel desired. This form was used very infrequently, however, and proved to be of little value to the project. Perhaps, a regularly scheduled time to use the form might have made it more useful.

VII. BILINGUAL, BICULTURAL ACTIVITIES

A. OBJECTIVES AND AIMS OF SPANISH PROGRAM

(1) To develop Spanish language skills of non-Spanish speaking children.

(2) To reinforce the Spanish skills of native speakers.

(3) To promote standardization of Spanish native speakers.

(4) To promote interest in the Spanish language in all students.

(5) To develop awareness of the Mexican culture and heritage in all students through events.

(6) To develop self-image through pride of language and cultural heritage.

(7) To awaken cross-cultural understanding in the children and in the teaching staff.

The objectives described above agree with those of the Bilingual Education Act (Title VII) of 1965 effective July 1, 1968 and administered by the United States Office of Education. The funding was available for programs in bilingual and bicultural education, having as the primary quest the demonstration of ways education programs might be improved by the use of bilingual, bicultural techniques. Instruction was not to be limited to Spanish. A curriculum was to be devised to meet cultural and language requirements. Hopefully, the thrust would be development of methods of creating a more positive self-concept in the bilingual child.

This program was directed toward a group process approach to bilingual education, but encountered many difficulties in accomplishing the goals. The sub-contractors were told at the beginning of the year that the teaching of Spanish could not interfere with the schools' daily curricula.

B. SPANISH CENTERS

Spanish Centers were initiated beginning in February, 1971, at one of the sites and somewhat later in the other two. The Training Coordinator met with the three Site Coordinators to start Spanish Centers in each classroom. The children spent approximately twenty minutes a day in the Spanish centers after their establishment.

None of the teachers were Spanish speaking and it was necessary to assess the language skills of the aides to best plan their contribution to the centers. Two aides were fluent, two somewhat fluent and the remaining two had limited skill in conversational Spanish. This lack required structuring of lessons and training of aides as well as developing specific materials for each lesson in order to achieve a modicum of the bilingual and bicultural objectives.

The results of the Artola-Stewart Spanish-English Vocabulary Test showed that the children's level of verbal competence in Spanish was, on the average, very low. (See Research Report) These results dictated lesson development to introduce minimum vocabulary. Basic kernel sentences were introduced to promote verbalization in full sentences whenever possible. The fast approaching end of the school year made the results predictably limited.

The Spanish centers were established around small, heterogeneous groups of no more than six children. Sequenced lesson plans were developed so that the aides could model the target vocabulary which could be taken over by one of the children modeling the teacher's role. This plan, on a sufficiently long-term basis, could have promoted three positive consequences:

a) the child's feeling of reward for leadership and language

skills b) the aide would be free to float and c) the reinforcement of participation skills in self-directed group activities.

Lesson kits, six in all for the short existence of the Spanish centers, were developed to cover activities for one week. The target vocabulary was related to classroom environment and was introduced with objects and vocabulary cards. Reinforcement of target vocabulary was accomplished by related activities such as games, bingos, etc. At the end of the week the children listened to a narrated lesson on audio tape for use with headsets which included the target vocabualry and introduced salutations and farewell expressions. Some games to be used for assessment purposes were also included in the weekly lesson kits. A manual with the sequenced lessons and the skills to be developed was prepared covering the content of each lesson, a description of the daily basic activity, its possible extension and the contents in each of the audio tapes.

Kits for each classroom were prepared by the Training Coordinator at the University of Arizona, College of Education, and were taken to each site by her. Methods of introducing new vocabulary, the sequence of the different activities and directions for the games and assessment activities were detailed to each Site Coordinator. Oral language teaching techniques were also reviewed. The Site Coordinator trained each aide and planned the methods of implementation to suit the needs of each particular classroom. Six lesson kits were presented, the seventh lesson was video-taped. The results of the Boehm Basic Concept Test, administered to all program children, revealed that a great number of them had missed four concepts: left, pair, center and medium-sized. The video tape shown in five classrooms, had as its

main objective the teaching of these concepts using vocabulary previously introduced in the lessons. The main character was a clown who introduced the concepts to a little girl who provided a character with whom the children could relate. The procedure used was to present each of the concepts with concrete objects followed up with more abstract representations. At the end of the film the clown invited the children to answer some questions by pointing to the monitor. The video tape was produced with two sound tracks, one English and one Spanish. The children showed remarkably constructive responses. An evaluation form was prepared and used to assess concept acquisition. Teachers, coordinators and aides were asked to evaluate the film and al' seemed to think it was an interesting means of reinforcing concept formation.

Each site was encouraged to develop the Spanish Centers based on its own needs. The Coordinators were to report needs or interest areas in their daily logs, whether having as a source the teachers, aides or the children themselves. The goal was to keep each center filled with as many activities and supplies as possible.

The interest of the teacher for the development and continuance of the centers was the most important factor in contributing to the expansion and development of the centers. Both extremes were encountered. One teacher requested material throughout the year and her coordinator's matching enthusiasm gave the most unique results of all six classrooms. The remainder were inconsistent and one simply ignored the process.

Additional materials and activities were planned to further extend the use of the Spanish centers and to allow the children

to use it during free-choice time.

(1) Spanish books and magazines in accessable places.

(2) Bingos relating to class activities with Spanish labels of words introduced in given activities.

(3) Encyclopaedia Britannica films were shown.

a. El policía

b. El bombero

c. Animales de la granja

d. Tus ojos

e. Tus oídos

f. El elefante

g. Animales del bosque

(4) A tape of Mexican songs was made by one coordinator.

(5) A tape of children singing Mexican songs.

(6) Records of Mexican songs.

(7) An animal book which labeled all the animals in both English and Spanish.

(8) A calendar for sequencing days in Spanish. The children could fill in the slots that answered:

a. Ayer fué

b. Hoy es

c. Manana será

(9) Spanish extension of unit on community helpers.

(10) A tagboard doll with body part labels in English and in Spanish.

(11) Body part bingo in both languages.

(12) Parts of a plant in English and Spanish.

(13) Transparencies:

a. Numerals

b. Environment objects.

(14) El vaquero - done in conjunction with study about rodeo.

The Mexican cowboy and his clothes.

(15) Counting and identification of numbers.

(16) Clothing vocabulary.

(17) Bingo that combined numbers and clothing.

(18) Lobo song and game.

(19) Spanish editions of the Bowmar books were corrected for faulty Spanish and audio tapes were made of each book by a native speaker. After the sentence was read in each page slowly, a bell rang and sufficient time was allowed for the child to repeat the sentences. Directions for following this procedure were given at the beginning of each tape.

(20) Stands were made for each classroom in gay, Mexican colors to indicate the location of EL CENTRO DE ESPAÑOL.

(21) A kit with labels of all of the objects in the classroom was taken to each site so that the children could become accustomed to the Spanish label for classroom objects.

C. SPECIAL CULTURAL ACTIVITIES

Only one of the teachers in the program initially expressed interest in having cultural events relating to Mexico in her classroom. She was very helpful in influencing other teachers in the program in presenting culturally-orientated activities.

The "Día de los Muertos" in Mexico (Halloween's equivalent) was celebrated in her classroom to inject a festively bicultural aspect. The Training Coordinator wrote a story for the children which explained how and why the Mexican people celebrate this day. The children made tissue paper flowers in all colors and took them to an abandoned cemetary across the street from the school. There followed a tasting experience and the children had some of the famous Pan de muerto made at a local bakery. With hot chocolate, they were shown pictures of Moctezuma, the famous Aztec Emperor, serving chocolate to Hernan Cortes. A unique book, shaped like the Pan de muerto, was designed in

which the children recorded their experiences. This technique was repeated on other occasions related to special holidays or celebrations.

A questionnaire was made for the parents to evaluate their reactions to this cultural event, and the majority were positive.

A Posada was held in the same classroom. There was an outstanding collection of pictures made by the teacher explaining this festivity. Copies of Christmas songs in Spanish and a Spanish translation of popular Christmas carols such as Silent Night, We Three Kings, et cetera were provided.

The "Día de los Reyes Magos" in Mexico was celebrated in the same classroom. The story of this holiday was written for the children by the Training Coordinator and Roscas de reyes were especially made for the project classrooms in a bakery in Tucson. The celebration took place as authentically as possible. The other classrooms read the story and had a tasting experience, but there was a lack of teacher motivation which wasted much of the educational and cultural value of this important Mexican festivity.

One school had an end-of-the-year fiesta to which the whole school and parents were invited. There was a puppet show in Spanish and the children in the classes danced Mexican dances and sang several songs in Spanish.

D. TEACHER AND TEACHER AIDE TRAINING

Unfortunately, bicultural training for teachers and aides was very limited because of the initially narrow scope of the program. The afternoon session of an all-staff workshop on October 19, 1970, consisted of making classroom materials. A few of the games introduced here as samples were in both languages.

There was no follow-up regarding use of the games in Spanish.

On November 10, 1970, an all-day workshop was given for aides. The objective was to teach the trainees Mexican songs, singing games, poems and riddles which could be introduced in their classrooms and in the play area. Posters were designed in gay colors showing the way to play these games and they were distributed to the different sites. It was interesting to discover that the aides who were all Mexican-American only knew one of the songs. They all expressed a wish to learn more songs and games in Spanish.

The afternoon session was a discussion, the purpose of which was to explore the aides' attitudes on different aspects of the program. Teacher-aide relationships were discussed and the aides were assured that the program staff would make every attempt to promote good working relationships between teachers and aides. The participants were asked to give their thoughts on bilingual education and the introduction of cultural activities orientated towards a better understanding of the Mexican heritage. They unanimously agreed that to bring Spanish into the classroom and attempt to have the children master both languages and know about the two cultures was the primary goal of a bilingual, bicultural program. Much was said about the importance of the Mexican culture in the classroom as a means of developing self-pride in the children of Mexican descent.

The next, and last, bicultural training offered was five months later, on April 20, 1971, at the office of the project. This workshop was entitled Contrastive Analysis of Spanish and English Sounds which Create Pronunciation Difficulties. This workshop was open to coordinators, teachers and aides.

The objectives for the workshop were:

1. To acquaint the trainees with some of the sounds in English which are difficult for Spanish-speaking children.

2. To develop a sense of awareness of phonological problem areas.

3. To acquaint the trainees with methods of corrective phonological techniques.

4. To promote awareness of the importance of developing auditory and verbal skills.

The Training Coordinator who conducted the workshop opened the meeting with a short explanation of the importance of developing a sensitivity to the difficulties that many Mexican-American children have in developing language skills. She described the predictability of phonological problem areas caused by the interference of sound patterns of the dominant language. Stress was placed on the importance of the teacher hearing exactly what the children are saying and then helping them to establish the correct linguistic habits essential to language learning. The trainees practiced different techniques used to elicit appropriate sound production and played the games which were designed to reinforce appropriate linguistic patterns.

The participants were very enthusiastic, regretted that this kind of training was not done earlier in the year, and expressed a desire for further training in sounds not covered in this workshop.

A manual which contained an analysis of the sounds, teaching procedures, poems and games for reinforcing the target sounds was given to each participant who stayed during the afternoon to make up some of the games presented in the morning session. The coordinators reported that many of the games were used in the classrooms.

E. RECOMMENDATIONS

(1) Bilingual or Mexican-American individuals should be involved at the decision-making level in all bilingual programs.

(2) Bilingual teachers need on-going training in linguistic methods of instruction.

(3) Teachers and aides should be screened before hiring to insure language competence and commitment to bilingual education.

(4) There should be reinforcement of cross-cultural literacy through in-service training.

(5) There are many aspects of bilingualism and biculturalism that are in great need of research or case study.

a. Attitudes of teaching staff toward minority group children.

b. Social behaviors of children from Mexican-American families versus Anglos and Blacks.

c. Observation schedules of teacher-pupil interaction with Anglo teacher and Mexican-American children and Mexican-American teacher and Anglo children.

d. Definition of respect - the difference between two cultures resulting from small group instruction.

e. Student skills: the difference in the two cultures resulting from small group instruction in:

1) Task persistence
2) Participation skills
3) Information-seeking skills
4) Cooperative skills

(6) Well defined order of priorities in training should be established; bilingual, bicultural versus research and socialization.

(7) Bilingual, bicultural objectives should be well-defined: time spent in instruction, content, verbal and reading skills in Spanish.

VIII. RESULTS AND EVALUATION

A. EVALUATION OF EFFECTIVENESS OF TRAINING

(1) Evaluation of Training by Participants

A questionnaire was completed by each participant for each training activity. These results are summarized at the end of this section. An overall indication of the way in which the participants rated the training is obtained from question 9, "How would you rate the entire training activity?"

The summarized data from all the workshops for this question were as follows:

Outstanding	27%
Excellent	34%
Good	31%
Fair	4%
Poor	0%
No Response	4%

Therefore, 61% of the total number of responses to this question were in the outstanding and excellent categories.

Participants also indicated the degree to which each training activity helped them meet program objectives. If these figures are totaled and translated into percentages the summarized evaluations are as follows:

Very Helpful	54%
Somewhat Helpful	34%
Not Helpful	6%
No Response	6%

These results are reported in detail in a summary in the Appendix. From this report it can be determined that the training was judged to be more effective in meeting certain of the program objectives than others. For example, the objective "To teach and reinforce such behaviors as cooperation, leadership, task persistence, information seeking and group participation." was at the top of the list. This indicates it is the objective for which training was judged most effective by participants.

The objective at the bottom of the list is "To develop methods for placing children in small groups on the basis of specific instructional aims and the past performance of the child." This indicates that participants judged the training as least effective in helping them meet this particular objective.

In general, the training can be considered successful in terms of participant judgement. Evaluations for the individual workshops are reported in the Appendix. The analysis of these ratings of individual training activities indicates that certain ones were rated more highly than others. For example, the workshop entitled "Contrastive Analysis of Spanish and English Sounds" received a greater percentage of "Excellent" ratings by participants than any other single total project training activity. A manual describing in detail the material and activities of this workshop has been compiled and a copy accompanies this report entitled "Contrastive Analysis of Spanish and English Sounds Which Create Pronunciation Difficulties."

The Behavior Management Workshop received the second largest percentage of "Excellent" ratings among the total project workshops.

Among the Teacher Aide Workshops the Math Workshop received the highest percentage of excellent ratings. A manual describing the activities and materials presented at this workshop has also been compiled and a copy entitled "The Discovery Approach to Mathematics" accompanies this report. A manual describing small group activities for science was also developed from the materials and activities presented at a Teacher-Aide Science Workshop. A copy of this manual also accompanies this report. Detailed descriptions of project workshops up to January 14 were provided in the mid-year progress report.

(2) Evaluation of Training by Site Coordinators

The three Site Coordinators were asked to evaluate the overall project training program. They were asked, among other things, to describe the most valuable skills they learned as a result of being in the project. Their responses to this question included the following: small group teaching techniques, positive reinforcement techniques, planning agendas for workshops, using intellectural kits for language development, evaluating with teachers and aides to meet program objectives and learning to conduct meetings and training sessions.

They regarded the most effective training methods as classroom demonstrations, small group workshops, observations at other schools and video tape feedback

for behavior modification techniques. Informal meetings at the sites were also considered an effective training medium. Least effective training methods were lecture-type, large-group workshops. There was only one workshop of this nature.

(3) Teacher's Self-Evaluation

One method for evaluating the effects of a training program is to ask participants to evaluate themselves in terms of their own progress in meeting the objectives of the program. The instrument developed for this purpose was changed several times over the course of the year; therefore, it was not until April that participants used the checklist in its final form. A copy of this checklist is included in the Appendix. The six teachers judged themselves as to the degree of success they had achieved in attaining each of the project objectives. Their mean scores for the 15 objectives listed on the checklist were as follows:

April: 70.96%

May: 75.50%

Though these figures indicate only a slight gain, the fact that the change represents a time period of only two months must be taken into consideration in evaluating their significance.

(4) General Evaluation of Training

Managing and organizing classrooms for small group instruction involves many complex skills on the part of the teacher. When the group process approach is directed toward creating a psychological environment for bilingual-

bicultural education, the task of implementation becomes increasingly complex. The training program was ambitiously designed to help teachers develop these complex skills.

An initial difficulty in accomplishing the objectives of the training program arose as a result of conflict regarding the emphasis on the Spanish language in the program. School administrators apparently understood that this program was not to be involved in any way with curriculum and if Spanish were to be added, this could be regarded as interference with curriculum. The Project Director, therefore, at first asked that the only introduction of the Spanish language into the school day be through the medium of Mexican cultural activities - for example, classroom celebrations such as "El Día De Los Muertos" and "El Día De Los Reyes Mogas", as a medium of instruction when a child spoke only Spanish, and in informal interactions in the classroom. Later, more direct teaching of Spanish occurred.

The coordinator at one site, though not bilingual, had always used Spanish informally in her classroom when she had been a teacher. She, therefore, encouraged the teachers and aides at her site to bring Spanish into the program in this way. Though the teachers knew little Spanish, they tried to learn a few phrases from the children and aides and always encouraged and reinforced the Spanish-speaking children to use their language and to teach it to the other children.

However, it was not until later in the school year that a greater emphasis on the Spanish language per se occurred, at least in most of the classrooms. The arrival at one site in January of a new Mexican-American site coordinator who began informally introducing Spanish into the regular ongoing classroom activities, led to an awakening of the possibilities of this type of approach at this particular site. This coordinator briefly described her initial approach to getting Spanish into the classroom informally as follows: "Spanish was used in the classroom by the coordinator first and later by the aide. Instructions, salutations, and questions were spoken in Spanish. At first the children responded to the Spanish with giggles and embarrassment. Later the Spanish-speaking children would respond by answering in English showing me that they were understanding Spanish. Later they began to feel free to speak it as well. For example, they would answer my questions or respond to my instructions in Spanish. Finally, this progressed to them speaking to me in Spanish first."

Following these minor successes in the classroom the Project Training Coordinator was able to begin to establish Spanish Centers in the two classrooms at this site. These centers included many activities, books, tapes, records and materials to reinforce the Spanish language and the Mexican-American culture. Spanish Centers were established at the other two sites somewhat later and became the focus of many learning

experiences in most of the classrooms. In two classrooms the emphasis on the Spanish Center was either minor or for a very short period of the day.

The six teacher-aides in this program were all Mexican-American, bilingual in varying degrees, and indigenous to the local community. These teacher-aides were thus able to play an important role due to their cultural and language similarity to the bilingual children in the project. The aides were made an integral part of the activities of the Spanish Centers and other related Spanish language activities. Such a procedure was important in giving status to the teacher-aides' contributions and many of them have commented on the effect this had on their own self-esteem. The teacher-aides were particularly important to this project because none of the classroom teachers was bilingual. There is no question that the bilingual-bicultural aspects of training would have been simpler and more effective if teachers had been bilingual or of Mexican-American heritage.

The bicultural program was probably most successful at the one site due to the unusual interest of one of the teachers, the enthusiasm and background of the site coordinator there, and the support of the principal. The culminating activity of a Mexican Fiesta involved every child in both project classrooms and was presented for the entire school as well as parents. The children learned Mexican folk dances and songs, and performed a puppet show. A group of Mexican-American students

from Mesa Community College volunteered to perform two dances for the group.

The training was, in general, more effective in accomplishing the objectives related to small, heterogeneous group procedures than in the specifically bilingual-bicultural objectives. This was partially due to clearer agreement among project staff and school administrators as to the nature of these objectives and the best methods for their accomplishment.

The two teachers and aides at one of the sites were what can only be described as outstandingly successful in organizing and managing small group procedures in their classrooms. Within a very short time after the beginning of the project in September, these two teachers had organized the classroom physical environment for small heterogeneous group instruction and were devoting the major portion of each school day to this type of instruction. The groups consisted of from four to six children and for the majority of activities child leaders were used. The groups were heterogeneous in regard to sex, ehtnic background, academic skill level, and dominant language. Peer interaction was encouraged and peer teaching and modeling were integral factors in the small group process in these classrooms. The identification and teaching of group interaction skills took place primarily through the procedures which will be described in the "Group Participation and Leadership Training Manual". This manual was used extensively by these two teachers and their aides and a summary of

their responses to this manual has been included in the Appendix. The groups in these classrooms functioned very effectively and all observers as well as the classroom personnel themselves were very favorably impressed with both the physical and psychological environments in these rooms and with the behavioral effects upon the children.

At another site, progress was much slower, partially due to the failure of project staff to clearly define both the objectives of the program and the role of the site coordinator in that program. However, both classrooms did use small group organization for a major part of the day, though the groups usually consisted of about seven children each rather than the recommended four to six. One teacher at this site remained enthusiastic about small group procedures throughout the year, whereas the other teacher will probably discontinue this approach when the project ends.

It was more difficult, also, to ensure heterogeneity in the small groups since this school grouped children homogeneously on the basis of academic achievement at the beginning of each school year. Thus, one of the classrooms at this site had lower achieving second graders and the other had the higher achieving children. Heterogeneity of the small groups in regard to sex, ethnic background and dominant language was, however, achieved in both of the project classrooms at this site.

Child leaders were used very infrequently at this site as the teachers felt the children did not have leadership skills. The site coordinator attempted to use the "Group Participation and Leadership Training Manual" but was not extremely successful since the teachers were not enthusiastic about or committed to the importance of child leaders and group process skills.

At the third site, the training program was least effective. Again, perhaps, the project staff was unsuccessful in translating program objectives into specific, detailed classroom procedures. However, another factor was a lack of administrative support for the small, heterogeneous group approach. Funds were available to purchase the furniture required to implement this approach, but were never used at this site.

One of the teachers at this site showed an interest in learning to organize her classroom for small group instruction and in fact, did accomplish this objective rather successfully. The physical environment in her classroom very early reflected the small group organization which she was using for a large part of the school day.

Homogeneous grouping based on academic achievement was also the practice at this school, thereby making it impossible for this teacher to have totally heterogeneous groups in her classroom. The groups were heterogeneous, however, with respect to sex, ethnicity,

and dominant language.

In the other classroom at this site, there was only a minimal interest in adopting the group process approach. When grouping did occur, the number of children in each group was usually seven or more and the activities were often no different from those used regularly when the children were not seated in groups. The small group procedures were used in the Spanish Center as the activities developed for these centers by the Project Training Coordinator were all small group activities.

The "Group Participation and Leadership Training Manual" was not used in either of these classrooms.

B. DATA FROM OBSERVATION SCHEDULES

The eleven behavioral observation schedules developed during the course of this project were for the purpose of measuring specific child and teacher behaviors and certain classroom environmental characteristics. The data from these measurement instruments were then to be used in evaluating program effectiveness and also the effects of different stimulus conditions and instructional variations upon children's behavior.

There were difficulties in obtaining true baseline measures since there was no time to develop the behavioral recording instruments and train the recorders before school opened and the training of the instructional personnel began. Training of teachers and aides in the skills needed to implement program objectives was thus started before baseline measurement of the significant behavioral and environmental characteristics was accomplished. This factor must be considered, therefore, in

evaluating the data which will be reported.

Copies of all the schedules and descriptions of reliability are included in a separate manual which accompanies this report. The data will be reported separately here for the behavioral observation schedules which proved most functional to the project.

(1) Question-Asking Behavior Schedule

One hypothesis which was examined during the course of this project was related to the effects of different stimulus conditions upon children's information seeking behavior. Academic, social and economic effectiveness may well be functionally related to the individual's level of skill in seeking out important information from his environment. To establish conditions which will influence this behavior may be, therefore, an important consideration for an educational system. In this study information-seeking was operationally defined as question-asking. Questions of a permission asking variety, for example, "May I get a drink of water?", were not included.

Differences in children's question-asking behavior as a function of several different environmental conditions was examined. Since one objective of this project was to evaluate effects of small group instruction on children's behavior, differences between children's question asking behavior in small groups (fewer than 8) and in large groups (more than 8) were examined. The table on the following page summarizes these findings:

CHILDREN'S QUESTION ASKING MEAN NUMBER OF QUESTIONS ASKED PER HOUR PER CHILD		
CLASSROOMS	SMALL GROUPS	LARGE GROUPS
1-1	10.3	6.6
1-2	9.9	4.8
2-1	5.1	3.0
2-2	7.7	4.7
3-1	2.9	1.4
3-2	11.5	5.9
TOTAL PROJECT:	7.9	4.4

It should be noted that the frequency of question-asking in small groups is greater than in large groups in every instance.

Another question examined concerned the effect of the presence of an adult on children's question asking behavior. The results are summarized below:

CHILDREN'S QUESTION ASKING THE NUMBER OF QUESTIONS ASKED PER CHILD PER HOUR IN SMALL GROUPS		
CLASSROOM	ADULT PRESENT	ADULT NOT PRESENT
1-1	13.8	6.8
1-2	9.6	10.2
2-1	6.0	4.1
2-2	12.2	3.2
3-1	3.9	1.8
3-2	10.5	12.4
TOTAL PROJECT:	9.3	6.4

The presence of an adult, in general, increased the frequency of question asking in the small group situation, although in two classrooms out of the four this situation was reversed.

Since another objective of small group instructional procedures in this project was to encourage and reinforce peer teaching, the frequency and conditions under which children asked questions of each other was of interest.

The table below demonstrates differences in the frequency with which children ask questions of another child in the small group situation as compared to the large group situation. These data reflect children's asking questions of one another only in situations in which an adult was present.

CHILDREN'S QUESTION ASKING

ASKING QUESTIONS OF ANOTHER CHILD

MEAN FREQUENCY PER CHILD PER HOUR

CLASSROOM	SMALL GROUPS	LARGE GROUPS
1-1	1.2	3.6
1-2	4.8	1.2
2-1	1.8	1.4
2-2	4.6	2.0
3-1	1.5	0.6
3-2	2.9	0.7
TOTAL PROJECT:	2.8	1.6

The small group situation was related to a higher frequency of asking questions of other children when the data from the total project is considered. There was only one classroom out of the six in which this situation was reversed and the small groups in this particular classroom were not set up as they were in most of the other classrooms to encourage group interaction.

Another finding was that absence of an adult in the small group situation functioned to increase the frequency with which children asked questions of one another. See the table below for a summary of these results:

CHILDREN'S QUESTION ASKING

ASKING QUESTIONS OF ANOTHER CHILD IN THE SMALL GROUP SETTING

MEAN FREQUENCY PER CHILD PER HOUR

CLASSROOM	ADULT PRESENT	ADULT NOT PRESENT
1-1	1.2	6.8
1-2	4.8	10.2
2-1	1.8	4.1
2-2	4.6	3.2
3-1	1.5	1.8
3-2	2.9	12.4
TOTAL PROJECT:	2.8	6.4

A graph of this table may be found in the Appendix.

These figures suggest that peer teaching, which certainly must include children asking and answering each other's

questions, can be strongly influenced in a positive direction by providing environmental settings which permit small groups in which children interact independently of an adult.

A summary of all the question asking data, including the number of hours of observation is included in the Appendix.

(2) Leadership Checklist and Leadership Activity Schedule:

Since peer teaching and modeling were considered to be important components of the group process approach, the use of child leaders for the small group activities was encouraged by the project staff. However, many difficulties were encountered and the teachers reported that children did not have the leadership and group skills needed for the groups to function efficiently. In order to meet this need, the research and training staff volunteered to develop procedures for training the children in these skills. The writing of the "Group Participation and Training Manual" previously described in more detail was the result.

In order to evaluate the effect of this training on the children's behavior, it was decided that certain baseline data should be collected beforehand. The Leadership Checklist and the Leadership Activity Schedule were developed for this purpose.

The Leadership Checklist (a copy of which accompanies this report in a separate manual) lists 10 items which should be accomplished during a lesson by the leader or by the group members. These items

were decided upon by the two project teachers who were interested in trying out the leadership training procedures. Only 9 of the items were considered in our analysis because one of the ten items was added after the baseline data was collected. The data from the use of the checklist was collected during four different phases. These were:

a. Phase I - Baseline Conditions - Leaders were those children who had shown some natural leadership abilities.

b. Phase II - Brief Instructions - During this phase the group leaders were given brief instructions regarding their leadership duties and the group instructions were posted in the classroom.

c. Phase III - Group Participation and Leadership Training - This phase included the period during which the children received the training.

d. Phase IV - New Leaders - This phase began with the ending of the training and the appointment of new leaders and extended through the rest of the school year. Up to this point in the study the same leaders who began in the baseline period had remained with their groups.

The table below summarizes the data from the checklist during the four phases. A score of 9 would indicate every item on the checklist had been answered in the positive direction.

LEADERSHIP CHECKLIST MEAN SCORES				
	PHASE I	PHASE II	PHASE III	PHASE IV
CLASSROOM 1	3.50	5.33	5.96	5.25
CLASSROOM 2	3.75	5.61	6.97	6.38
MEAN FOR BOTH CLASSROOMS	3.63	5.47	6.47	5.82

The data show a progressive increase in efficient group behavior as measured by this checklist up until new leaders were appointed at which time a slight decrease occurred. Separate graphs of these data for each classroom are included in the Appendix.

The Leadership Activity Schedule was another behavior observation schedule developed to obtain measurements of children's behaviors in the small group setting in order to evaluate the effectiveness of the group training procedures. One of the behaviors of special interest to the teachers because they felt it to be one which sometimes interfered with effective group functioning was "being away from assigned group". The teachers were hopeful that this behavior would decrease as a function of the group participation and leadership training procedures. The table on the next page shows data from the Leadership Activity Schedule indicating that this effect did in fact occur. The phases are the same as those described previously.

MEAN NUMBER OF CHILDREN
AWAY FROM ASSIGNED GROUP ACTIVITY
PER 10 SECOND INTERVAL

	PHASE I	PHASE II	PHASE III	PHASE IV
CLASSROOM 1	1.43	1.82	1.13	0.49
CLASSROOM 2	2.44	1.39	1.31	0.58
MEAN FOR BOTH CLASSROOMS	1.94	1.61	1.22	0.54

Both of the measures described here have shown changes indicative of improved group functioning following a procedure in which children were specifically trained in group and leadership skills. Other data from the schedules have not been fully analyzed, but this will hopefully be accomplished in the near future.

(3) Spanish Usage

An important aspect of any bilingual, bicultural program is to encourage children to use Spanish during their classroom activities and informally in play and social situations. This is important, quite apart from any actual formal teaching of the Spanish language. The children's use of Spanish in the classroom was recorded on the Daily Events Observation Schedule throughout most of the year and on a separate Spanish Usage Schedule starting later in the year.

At one site the coordinator played a particularly important role in implementing bilingual, bicultural activities in the classroom. The effect of her activities,

especially the establishment of Spanish Centers, upon the use of Spanish in the classroom was, therefore, considered worthy of examination. Since this site coordinator replaced another individual in about the middle of the year, it was possible also to note differences occurring in Spanish usage related to the change in site coordinators. The table below summarizes this data from the Daily Events Observation Schedule:

SPANISH USAGE BY CHILDREN

PERCENT OF TIME IN WHICH SPANISH WAS SPOKEN

	FIRST SITE COORD.	SECOND SITE COORD.	SPANISH CENTER ESTAB.	SITE COORD. REMOVED
CLASSROOM 1	8.5	14.6	22.4	19.4
CLASSROOM 2	5.5	5.9	26.3	14.4
MEAN FOR BOTH CLASSROOMS	7.0	10.3	24.4	16.9

The second site coordinator was much more interested in the Spanish program and more motivated to get Spanish into the classroom. The data show that she was more effective in increasing the children's use of Spanish in the classroom. The differences between classrooms prior to the establishment of the Spanish Centers is probably due to teacher interest. The establishment of the Spanish Centers brought about a large increase in both classrooms, however. When the site coordinator left the

site during the last two weeks of school to work on final reports, the use of Spanish decreased in both classrooms, though it remained higher than during the baseline period. These data are presented graphically in the Appendix.

One of the problems in educating bilingual children is the reluctance of Spanish-speaking children to use their native language in the school situation. This is probably an effect of a great number of social and psychological factors operating in educational systems which tend to denigrate Spanish and the Mexican culture. Efforts to change these factors are certainly essential in any bilingual, bicultural program. Encouraging and reinforcing the Spanish language and emphasizing the Mexican-American culture can do much to influence the Spanish speaking child to use his language and be proud of his heritage.

(4) Teacher and Teacher-Aide Reinforcement Practices

The Teacher Reinforcement Practices Schedule was developed to measure both teachers' and aides' use of verbal reinforcement in the classroom. If training in this skill was effective, data from this schedule should show an increase in teachers' and aides' use of contingent verbal reinforcement. Two types of verbal reinforcement were recorded. They were defined as "Behavior Specified", in which case the teacher or aide clearly indicates to the child what he did that is being approved, and "Generalized", in which case the verbal approval is contingent upon the child's behavior but he is not specifically told what is being approved. A copy of this

schedule and instructions for its' use is included in a separate manual. Due to time pressure data analysis is not complete at the time of writing this report. Therefore, the two types of reinforcement are being considered all together rather than separately. Further analysis will be completed at a later date.

The table presented below shows the changes in reinforcement practices of the teacher aides following workshop training in reinforcement techniques.

AIDE REINFORCEMENT PRACTICES

MEAN NUMBER OF VERBAL REINFORCEMENTS PER HOUR

CLASSROOMS	PRE-WORKSHOP	POST-WORKSHOP
1-1	1.35	4.68
1-2	5.54	8.81
2-1	No Data	7.32
2-2	5.49	8.67
3-1	1.35	6.42
3-2	8.38	7.46
TOTAL PROJECT MEANS	4.42	7.23

In the instances where both pre and post data were available, 4 out of the 5 subjects showed the predicted increase in frequency and the means for the total project show the same increase. This suggests that the workshop training did positively affect the classroom behavior of four of the teacher aides.

The table below presents the same data for teachers.

TEACHER REINFORCEMENT PRACTICES MEAN NUMBER OF VERBAL REINFORCEMENTS PER HOUR		
CLASSROOMS	PRE-WORKSHOP	POST-WORKSHOP
1-1	6.80	6.11
1-2	5.54	14.24
2-1	53.50	39.23
2-2	26.18	43.88
3-1	6.54	6.80
3-2	3.76	7.08
TOTAL PROJECT MEANS	17.00	19.55

Data for four of the six teachers showed the predicted increase in frequency. One of the remaining two had such an initially high frequency that it is not surprising that no increase occurred. The means for the total project also show the predicted increase in frequency though the increase is small. If the data for the teacher with the unusual frequency is eliminated the Total Project Means would be as follows:

Pre-Workshop 9.76

Post-Workshop 15.62

These figures represent a much more significant increase and certainly indicate an important workshop training effect.

(5) Small Groups

A Small Group Activity Schedule was developed for the

purpose of measuring the amount of time which children spent in small group activities in the project classrooms. Difficulties in using this form were encountered, however, and the data presented here were obtained instead from the Daily Events Schedule a copy of which is included in an accompanying manual. Initially it was hoped that data on changes in the amount of time spent in small group activities in the classroom would be a measure of progress toward project objectives and of the effectiveness of the training of the instructional personnel. However, changes in recording forms and consequent delays in obtaining baseline data, meant that training of the instructional personnel preceeded the obtaining of measures of amount of time spent in small group activities early in the year. Thus, most teachers began implementing small group procedures fairly early in the school year making pre and post training comparisons impossible. The data is important, however, in demonstrating that small groups were used with frequency in all of the project classrooms. The table on the following page summarizes the percentage of the total time observed during which small groups occurred in the six project classrooms. It will be noted that the means range from 45.07 to 77.55.

(6) Choice Behavior Schedule

To provide children with opportunities to engage in task-oriented self-selection was one of the goals of this project. Free choice in the classroom offers children opportunities to satisfy special interests and

PERCENT TIME SPENT IN SMALL GROUPS

CLASSROOM	MONTH	% TIME OBSERVED DURING WHICH SMALL GROUPS OCCURRED	CLASSROOM	MONTH	% TIME OBSERVED DURING WHICH SMALL GROUPS OCCURRED
1-1	1	76.5	2-2	1	55.2
	2	70.2		2	72.8
	3	76.2		3	63.5
	4	70.6		4	65.4
	5	90.5		5	60.5
	6	62.5		6	63.3
				7	98.2
MEAN		74.42	MEAN		68.41
1-2	1	59.6	3-1	1	56.2
	2	28.6		2	62.5
	3	43.2		3	34.2
	4	80.0		4	36.0
	5	39.6		5	45.6
	6	77.3		6	47.0
	7	50.0		7	34.0
MEAN		54.04	MEAN		45.07
2-1	1	84.6	3-2	1	61.5
	2	100.0		2	38.8
	3	81.8		3	50.0
	4	66.7		4	37.7
	5	61.6		5	53.0
	6	70.6		6	45.3
				7	48.5
MEAN		77.55	MEAN		47.83

is one technique for individualizing the school experience for each child. The child can be encouraged and taught thereby to exercise initiative, to make wise choices and to persist in the tasks he chooses. Since free choice activities were considered such an important component of the group process approach, the Choice Behavior Schedule was developed to provide a measure of the frequency with which these activities occurred in the project classrooms. An increase in frequency should be expected as a function of training. This schedule was used less frequently than was desirable because of factors related to time and personnel. The data will be reported, therefore, only for those months in which at least an average of one hour of observation per classroom was recorded. There were only four such months during the school year. These data are summarized in the table below:

CHOICE BEHAVIOR

PERCENT OF TIME OBSERVED IN WHICH SOME FREE CHOICE OCCURRED

MEAN FOR ALL SIX CLASSROOMS

	% of TIME	TOTAL NUMBER HOURS OBSERVED
OCTOBER	24.33	36.92
NOVEMBER	28.50	37.17
DECEMBER	25.67	7.00
MAY	28.50	7.83

The predicted increase in the frequency of free choice activities in the classroom did not occur. However, the first data were obtained in October and training of the classroom personnel began in September. All teachers had been made aware that one of the objective of the program was to provide children with free choice activities. The teachers may have already begun to increase their use of free choice in the classroom by the time the data were first obtained. The data presented here indicated that some free choice was occurring in approximately one-quarter of the time intervals observed. This does not necessarily indicate that all children were participating in free choice activities during that time period. Further study is needed in the area of free choice activities in education particularly to examine the question of optimal time to be spent in such activities and in methods for teaching children to intelligently choose among a variety of tasks.

(7) Classroom Checklist

The Classroom Checklist was used by the observers to measure aspects of the physical environment and the presence and organization of various instructional materials in the project classrooms. The Checklist was also used to determine the extent to which Learning Centers were used in project classrooms. If every item on the checklist was found in a classroom, the score would be 111. This score is not to be regarded as optimal, however, because the checklist describes seven

different Learning Centers. This many centers would never be set up in a classroom on any one occasion.

Difficulties were encountered in many of the project classrooms in setting up permanent Learning Centers. These difficulties were principally related to double sessions which required that rooms be shared with non-project teachers who did not wish their rooms to be organized into Learning Centers. Therefore, the teachers found it necessary to set up centers each day making it difficult to provide an abundance of materials. This explains what appear to be the relatively low checklist scores shown on the tables below.

CLASSROOM CHECKLIST

MONTH	MEAN SCORES FOR ALL PROJECT CLASSROOMS
NOVEMBER	29
DECEMBER	7
JANUARY	13
FEBRUARY	25
MARCH	31
APRIL	44
MAY	38

A greater increase in mean scores would probably have been recorded had it been possible to obtain data at the beginning of the school year. The figure for December may represent a dismantling of the classroom

prior to the Christmas holidays.

(8) Aide Activity

The teacher aide role was considered an especially important one in this project since the aide was of the same ethnic and language background as the Mexican-American children. Thus, there was an adult in the classroom who understood these children's language and culture and with whom they could identify. For those children who spoke little or no English, the aide was an adult with whom they could communicate. The possibility of providing more individualized instruction is also increased by the presence of a teacher aide.

In order to accomplish the above goals, it is necessary for the aide to spend a large percentage of her time in interactions with children either with individual children or with groups of children. The table below shows the average percentage of time spent by project aides in interactions with children.

AIDE ACTIVITY

MEAN PERCENT OF TIME OBSERVED
IN WHICH AIDES INTERACTED WITH CHILDREN

MONTH	PERCENT OF TIME
OCTOBER	51%
NOVEMBER	58%
DECEMBER	50%
JANUARY	40%
FEBRUARY	56%
MARCH	No Data Available
APRIL	56%
MAY	69%
GRAND MEAN	54.28%

It is good to note the large increase in time spent interacting with children during the last month of the school year.

C. DATA FROM TESTS AND QUESTIONNAIRES

(1) Language Samples

Two site coordinators obtained oral language samples from program children at two different points in time during the school year in order to evaluate language development and also to provide information helpful to teachers in planning language development activities. Analysis was performed for this data from one site only because the time interval between samples was so short at one of the sites.

This assessment techniques involved the presentation of a standard stimulus to each child - a picture of a girl and a monkey eating ice cream cones, and of asking the child to describe or "tell about" the picture. The site coordinator carried out this procedure with each child in the two program classrooms in October and then again in April with those children who still remained in the program. Two tables in the Appendix present the number of words each individual child used in describing the picture in October, again in April and the direction and amount of change in this variable. A repeated measures analysis of variance shows that the pre and post measures of mean number of words used differed significantly. Since no control groups were used, this is not conclusive evidence that gains were due to factors other than regular

school experiences and the passage of time. However, a subjective analysis of the language samples (See Appendix) is quite impressive as are the increases in average number of words used.

The tables below show the mean number of words per child used to describe the picture in October and again in May in each classroom and also the results when the classrooms are combined.

LANGUAGE SAMPLES
MEAN NUMBER OF WORDS

	OCTOBER	MAY
CLASSROOM 1	14.44	29.13
CLASSROOM 2	23.67	56.78
COMBINED	19.32	43.76

The following tables are designed to show differential effects of ethnicity. The scores of children with Mexican-American surnames are compared to those with non-Mexican-American surnames. The non-Mexican-American group is all Anglo with the exception of one Oriental.

LANGUAGE SAMPLES
MEAN NUMBER OF WORDS

	OCTOBER	MAY
CLASSROOM 1:		
Mexican-American	17.00	34.86
Other	12.44	24.67
CLASSROOM 2:		
Mexican-American	21.33	65.92
Other	28.33	40.50
COMBINED:		
Mexican-American	19.74	53.84
Other	18.80	31.00

This table indicates that gains in English language production were greater in all cases for Mexican-American children than for non-Mexican-American. See the Appendix for selected examples of Mexican-American language samples showing changes from October to April.

(2) Peabody Vocabulary Test

This test measures English vocabulary comprehension. It was administered to all of the program children and a group of control children from each site at the beginning of the school year. In April the test was readministered to those children who were still in attendance. Since the geographical area is one with a transient population, many of the original children had moved away. The test had been administered to 164 program children in the fall, of which only 114 were still in attendance in April. Out of 59 control children, 41 were still in attendance. Mean pre and post Peabody scores shown in the table below indicate that both experimental and control children showed gains in I.Q.

PEABODY VOCABULARY TEST
MEAN I.Q. SCORES

	FALL	SPRING
PROGRAM GROUP	85.55	90.05
Boys	88.53	93.57
Girls	82.00	85.85
CONTROL GROUP	82.93	88.03
Boys	84.09	85.82
Girls	81.58	90.58

An analysis of variance (see table in the Appendix) shows a significant trials effect ($F = 19.92$, $p < .001$) indicating that the gain in I.Q. scores was statistically significant for the total group. However, there were no significant main effects for treatment indicating that there were no differences in improvement between program children and control children. No significant main effects were found for sex. An interaction effect (Treatment X Sex X Trials) approached significance. This effect is difficult to fully interpret without post hoc comparisons and since the significance level did not quite reach .05, these were not done. Further analyses showed no significant main effects for site or for ethnicity.

(3) Artola-Stewart Spanish-English Vocabulary Test

This is a test which had been developed by the Project Training Coordinator. It measures basic vocabulary in Spanish and English. The test was administered in the fall to all program children and a control group and again at the end of the year to those children still remaining in the project schools. Mean pre and post scores on the English component of the test are shown in a table in the Appendix. These scores indicate that both experimental and control children showed gains in English vocabulary production. A perfect score would be 60. Analysis of variance (see table in the Appendix) shows a significant trials effect ($F = 12.091$, $p < .01$) indicating that both program and control children improved their scores significantly. No

significant main effects were found for treatment or sex. There were no significant interaction effects.

Mean pre and post scores for Mexican-American children for the Spanish component of this test are presented in a table in the Appendix. The lateness of introducing Spanish into the classrocms can account for the poor performances in Spanish on this test. The analysis of variance (see table in Appendix) does show a significant trials effect ($F = 16.61$, $p < .001$) indicating that both program and control Mexican-American children improved their scores significantly. No significant main effects for treatment or sex were found and there were no significant interaction effects.

(4) Parent Questionnaire

A parent questionnaire developed to discover parental attitudes toward bilingual, bicultural education was individually administered to a representative sample of families of project children. The results indicated that a large majority of parents had favorable attitudes toward this type of educational program. The results are tabulated and summarized in a report included in the Appendix.

IX. SUMMARY AND RECOMMENDATIONS:

The group process approach to education is a challenging one because of the increased potentialities it seems to offer children for optimal human development. This is certainly no less true for bilingual education than for any other. In fact the child who arrives at school to find an alien culture and language is in even greater need of the positive developmental and psychological environment provided by this approach than is the child from the dominant culture.

To teach the child in his dominant language is by itself perhaps only a very minimal contribution to his full development as an effective human being. The broader socialization skills which he is able to acquire within the educational framework of a group process approach, skills such as independence, curiosity, task persistence, decision making, planning, helping and respecting others, may be of equal or greater significance to his ultimate happiness and human effectiveness. It is these assumptions which have motivated this educational experiment.

The experiment can certainly be regarded as at least partially successful in its efforts to create classroom environments and appropriate activities to facilitate small group interaction. Success was particularly outstanding in situations with strong administrative support. An innovative educational program which does not have such support can probably never achieve its' objectives more than minimally. Identification and examination of factors important for the successful implementation of the group process approach in elementary classrooms has been an extremely important component of the

work carried out by the project staff during this year. Significant progress has been made in completing a teacher's manual incorporating and illustrating these findings. Further work would be necessary however, to produce a functional finished product. A one page summary describing the target population and the objectives of this manual is included in the Appendix.

The design of the classroom psychological atmosphere and physical environment to reproduce the conditions of natural language acquisition was a major goal of this project. The attainment of this objective was certainly not totally successful. However, the identification and elucidation of variables significant to this process has been attempted and the conclusions resulting from this attempt will be discussed.

Heterogeneous grouping is probably the single most critical variable. The child's class and school placement must be based on assuring heterogeneity of several important characteristics, including, especially, ethnicity, socioeconomic background, dominant language and academic achievement. If children are to learn a second language from one another naturally in the context of their interactions on the playground and in the small group settings in the classroom, there must be children in all of the groups who already have fairly well developed language skills in either Spanish or English when they arrive at school. Children may then serve as language models for one another. Ideally half of the children in each class and in the school as a whole should be of Mexican-American background and speak Spanish as their dominant native language. The other half should be English speaking and from a middle-class socioeconomic background. The socioeconomic class requirement is based on the abundant

research findings (Bernstein, 1960 and 1961; Irvin, 1948; Milner, 1951; and Templin, 1957) which provide clear evidence of the language deficiencies of children from lower socio-economic class backgrounds. If Spanish speaking children are to acquire English language skills as a consequence of peer interactions, it may be absolutely essential that these peers be from middle socioeconomic class backgrounds and thus presumably with highly developed English language skills. This degree of heterogeneity in school populations will normally not occur in urban schools without bussing between neighborhoods. Complete school desegration both ethnically and socioeconomically is, therefore, considered vital if such a program is to be totally successful. A significant missing link in this project was a truly heterogeneous school population.

Another very important factor, and one which has been mentioned earlier, is the support of the school administration. The group process approach requires many changes in the teacher's role, in the physical organization and activities in the classroom, and in the children's behavior. An administrator who does not envision the potentialities and advantgages of this approach is seldom willing to tolerate and even less encourage these innovations. It is surely unwise to finance any educational program which is not enthusiastically supported by the administration of the school district. Therefore, a detailed description of any proposed new educational program complete with explanations of any expected changes in staff behavior, children's behavior, classroom physical environment and classroom activities must be outlined in advance for administrative personnel. Again, this particular program failed to achieve a

high degree of administrative enthusiasm with the exception of one site, and it was at this site that the program was probably most successful.

A committment on the part of project staff members, teachers, and administrators to the value of bilingual, bicultural education is certainly vital to ensure the success of such programs. However, committment alone is not enough. There must be Spanish speaking adults in the classrooms, and if bilingual teachers are not available the use of paraprofessional teacher's aides indigeneous to the local community is recommended as an alternative solution, at least on a temporary basis. On this project, however, not one classroom teacher was bilingual and the six teacher aides were bilingual in varying degrees. The Spanish of two of the teacher aides was far from fluent and only two spoke relatively fluent Spanish. This situation was not a highly favorable one for the development of a successful bilingual, bicultural program. Good language models (both adults and children) are considered extremely important to this approach to bilingual education.

Absolutely essential to this educational model is the day-to-day demonstration in the school of the importance and value placed upon the Spanish language and the Mexican-American culture. There must be no difference in the extent to which the environment encourages and reinforces Spanish as compared to English. Even extremely subtle distinctions could have strong influences on children's perceptions of the desirability and status of the Spanish language and the Mexican culture. This point cannot be emphasized too strongly. Some of the very specific techniques by which this equality of importance of both languages and

cultures can be maintained have been defined during the course of this project. These techniques are described in a "Natural Method of Language Acquisition Checklist" which is included in the Appendix of this report.

A group process approach in which children engage in small group activities for a major part of the school day is also essential in order to maximize the opportunities for speaking and hearing language. Psychologically, communication processes and interpersonal relationships are strengthened in the physical intimacy of small group situations. The similarity between the small group interactions and family interactions may be significant in simulating the conditions under which a child acquires his native language.

The small group pattern can also provide a "developmental milieu" which promotes, through its emphasis on child leaders and independent activities, the child's sense of autonomy. Erikson (1950) has described the central developmental task of early childhood as the development of this sense of autonomy. The school can support and encourage autonomy by providing environments (most desirably small independent groups) which allow children to make choices and to assume the responsibility for the consequences of their choices. The development of autonomy and mastery behavior is certainly as significant for a bilingual, bicultural program as for any other. The child without these behaviors will not be able to use his language (either Spanish or English) to effectively control his own environment and his responses to that environment.

A final factor important insofar as the psychological atmosphere of the classroom is concerned is that of positive

versus aversive management techniques. A child who is exposed to punishment in the classroom will not be able to learn effectively because of the adverse emotional responses which are triggered by such treatment. Punishment, whether it is physical, or the more frequently used shame and ridicule, is inimical to learning as it interferes with and often blocks completely such behaviors as concentration, attention and interest. Provision of a positive, rewarding classroom atmosphere in which all children experience many successes each day is vital to all educational approaches and it cannot be too strongly recommended that all bilingual, bicultural programs place a major emphasis on this program aspect.

An attempt has been made to summarize the discoveries which occurred during a one year project devoted to an exploration of a group process approach to bilingual education. The accomplishments of this project can best be described in terms of an improved understanding and clarification of variables which may be important for the successful implementation of a bilingual, bicultural program based on the group process approach. Further investigation of the environmental and social variables which are significant to the facilitation of natural language acquisition in an educational setting should certainly be worthwhile to the proponents of bilingual education.

REFERENCES

Bernstein, B. Language and social class. British Journal of Sociology, 1960, 11, 271-276.

Bernstein, B. Social class and linguistic development: a theory of social learning. In A.H. Halsey, J. Floud & C. A. Anderson (Eds.), Education, economy and society. New York: The Free Press of Glencoe, 1961, Pp. 288-314.

Bruner, J. The course of cognitive growth. American Psychologist, 1964, 19, 1-15.

Erikson, E.H. Childhood and society. New York: Norton, 1950.

Irwin, O.C. Infant speech: the effect of family occupational status and of age on the use of sound types. Journal of Speech and Hearing Disorders, 1948, 13, 224-226.

Luria, A.R. and Yudovich, F.I. Speech and the development of mental processes in the child (Translated by Kovasc, O. & Simon, J.) London: Staples Press, 1959.

Milner, E. A study of the relationship between reading readiness in grade one school children and patterns of parent-child interactions. Child Development, 1951, 22, 95-112.

Mowrer, O.H. Learning theory and the symbolic processes. New York: Wiley, 1960.

Silberman, C. Crisis in the classroom; the remaking of American Education. New York, London: Random House, 1970.

Skinner, B.F. Verbal Behavior. New York: Appleton, 1957.

Templin, M.C. Certain language skills in children, their development and interrelationships. Institute of Child Welfare Monograph, 1957, Pub. No. 26.

Wetzel, R.J. A cooperative effort of university researchers and public schools in the development of an early childhood education program. Paper presented at the Bureau of Indian Affairs Conference on Early Childhood Education, Albuquerque, New Mexico, 1968.

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LIST OF PROJECT PRODUCTS

The list below represents products which have been developed during the year. Those which are completed and will (except for the tapes) accompany the final report are listed under Section I. Those which require further refinement are listed under Section II.

I. COMPLETED PRODUCTS

A. The Discovery Approach to Mathematics by Adela Artola Stewart, Virginia Aranda and Tana Smith. Edited by Lois Wilson.

A teacher's manual resulting from a project workshop. It describes materials and independent activities for small group and individualized math instruction in which the child discovers fundamental mathematical relationships in his immediate environment.

B. Mini-clases de espanol: A Small Group Process Approach to Beginning Spanish Instruction in the Elementary School by Adela Artola Stewart.

A teachers manual including basic activities (games, poems, songs, riddles and stories) to be carried out for 15 or 20 minute periods and using vocabulary related to the child's classroom and home environment and building on to basic kernel sentences. The manual describes teacher and child group leader activities and includes the narration of one video tape lesson and six cassette lessons.

C. Contrastive Analysis of Spanish and English Sounds Which Create Pronunciation Difficulties by Adela Artola Stewart.

A teacher's manual which describes procedures for correcting predictable phonological problems. The manual includes poems, games and other activities for reinforcing appropriate linguistic production.

D. Teaching Basic Concepts - Left, Pair, Center, Medium-Sized. Written and Produced by Adela Artola Stewart, Audio-Visual Specialist - Ben Gomez Jacobs, Art work and main character - Diana Lerma Bracker.

A video-tape developed for the purpose of teaching four basic concepts (frequently misunderstood by the target population) moving from concrete to abstract representation.

Sound tracks in both Spanish and English are available. The tapes were field tested and an evaluation instrument developed to assess effectiveness. (This tape is on file at the Arizona Center for Early Childhood Education, College of Education, University of Arizona.)

E. Behavior Observation Schedules

This booklet contains copies of all the behavioral observation schedules used during this project. Instructions for using the schedules, which measured teacher, teacher-aide, and child behaviors and classroom environmental variables, are also included.

F. Case Studies by Jean Baker, James Martin and Barbara Walters.

Descriptions of a selected group of classroom intervention studies.

G. Selected Science Activities for Small Groups by Barbara Walters, Virginia Aranda, Tana Smith and Cecilia Gonzales.

Detailed descriptions of science activities and experiments suitable for small groups both teacher and child led.

II. PARTIALLY COMPLETED PRODUCTS

A. Group Participation and Leadership Training Manual by Jean Baker, Tana Smith, Barbara Walters and Ralph Wetzel.

A teachers' manual for training children in small group participation and leadership skills. Video tapes to accompany the manual could be developed with careful editing.

B. A Small Group Process Approach to Bilingual, Bicultural Education

A teacher's manual designed to describe an innovative educational model for bilingual education and to provide teachers with the knowledge and skills needed to implement this model.

C. Group Process Techniques by Jean Baker.

A narrated slide presentation giving audio and visual description of specific techniques for designing a learning environment to simulate the conditions of natural language learning in a classroom setting.

D. Behavior Management in Small Groups by Jean Baker, Pamela Hoecker and Ralph Wetzel.

A narrated video tape demonstrating the use of behavior management in small group settings with an emphasis on the creation of of positive learning environments for children.

APPENDIX

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Summary - Participant Training Evaluations

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SUMMARY OF ALL TRAINING EVALUATIONS

Objectives of the training program are listed below. Training participants, teachers, aides, and site coordinators evaluated each training activity in terms of these objectives. These summary data were compiled from the separate evaluations of the individual training activities and show that the training was judged more effective in meeting some of the objectives than of others. The descending order shows this effect. These figures represent the mean scores of all participants for all workshops.

	% VERY HELPFUL	% SOMEWHAT HELPFUL	% NOT HELPFUL	% NO RESPONSE
1. To teach and reinforce such behaviors as cooperation, leadership, task persistence, information seeking and group participation.	62	30	4	4
2. To organize the classroom so that children help teach one another and learn from one another.	61	34	3	2
3. To positively reinforce children for appropriate social, language and academic behaviors.	61	30	2	7
4. To act as a model to children for appropriate language in Spanish and/or English.	60	35	4	1
5. To organize materials into learning centers for small groups.	58	29	7	6
6. To organize the physical environment of the classroom to permit educating children in small heterogeneous groups.	48	36	6	10
7. To organize the classroom so that children will sometimes be permitted to choose their own activities.	43	37	12	8
8. To develop methods for placing children in small groups on the basis of specific instructional aims, and the past performance of the child.	36	38	13	13
TOTAL MEANS:	54	34	6	6

	% OUTSTANDING	% EXCELLENT	% GOOD	% FAIR	% POOR	% NO RESPONSE
9. How would you rate the entire training activity?	27	34	31	4	0	4

SUMMARY
PARTICIPANT TRAINING EVALUATION
TOTAL PROJECT WORKSHOPS

OVERALL EVALUATIONS

	OUTSTANDING	EXCELLENT	GOOD	FAIR	POOR	NO RESPONSE
Orientation Workshop (No Evaluation)	-	-	-	-	-	-
Classroom Visitation	17%	8%	67%	8%	0%	0%
Developing Materials For Learning Centers	22%	50%	14%	0%	0%	14%
Demonstration - Learning Centers in the Classroom	20%	27%	47%	6%	0%	0%
Behavior Management Workshop	29%	14%	43%	14%	0%	0%
Contrastive Analysis-Spanish-English Sounds	45%	33%	6%	0%	0%	16%

VALUE IN MEETING PROJECT OBJECTIVES

	VERY HELPFUL	SOMEWHAT HELPFUL	NOT HELPFUL	NO RESPONSE
Orientation Workshop (No Evaluations	-	-	-	-
Classroom Visitations	32%	60%	7%	1%
Developing Materials for Learning Centers	65%	30%	3%	2%
Demonstration - Learning Centers in the Classroom	53%	41%	3%	3%
Behavior Management Workshop	48%	28%	17%	7%
Contrastive Analysis Spanish and English Sounds	55%	26%	4%	15%

SUMMARY
PARTICIPANT TRAINING EVALUATIONS
SITE COORDINATOR WORKSHOPS

OVERALL EVALUATION

	OUTSTANDING	EXCELLENT	GOOD	FAIR	POOR	NO RESPONSE
Behavior Management in the Classroom	29%	43%	21%	7%	0%	0%
Skiff Classroom Demonstration	29%	14%	43%	14%	0%	0%

VALUE IN MEETING PROJECT OBJECTIVES

	VERY HELPFUL	SOMEWHAT HELPFUL	NOT HELPFUL	NO RESPONSE
Small Group Instruction and Professional Response (No Evaluation)	–	–	–	–
Behavior Management Workshop	31%	28%	25%	16%
Skiff Classroom Demonstration	50%	48%	18%	0%
Language Development (No Evaluation)	–	–	–	–
Discussion Leading (No Evaluation)	–	–	–	–

SUMMARY
PARTICIPANT TRAINING EVALUATIONS
AIDE WORKSHOPS

OVERALL EVALUATIONS

	OUTSTANDING	EXCELLENT	GOOD	FAIR	POOR	NO RESPONSE
Spanish Games and Songs	16.5%	66.0%	16.5%	0.0%	0.0%	0.0%
Math	36.0%	36.0%	28.0%	0.0%	0.0%	0.0%
Learning Kits	0.0%	22.0%	67.0%	11.0%	0.0%	0.0%
Science	12.5%	62.5%	25.0%	0.0%	0.0%	0.0%

VALUE IN MEETING PROJECT OBJECTIVES

	VERY HELPFUL	SOMEWHAT HELPFUL	NOT HELPFUL	NO RESPONSE
Spanish Games and Songs	79%	19%	0%	2%
Math	58%	27%	5%	10%
Learning Kits	49%	39%	4%	8%
Science	66%	23%	11%	0%

CHECKLIST FOR BILINGUAL, BICULTURAL PROGRAM CLASSROOMS

SITE COORDINATOR:_____ SCHOOL:_____

TEACHER:_____ DATE:_____

The following list describes the objectives of the bilingual, bicultural program. This checklist provides teachers with a technique for evaluating their progress toward these goals. It is suggested that this checklist be used for self-evaluation on a once a month basis. The site coordinator should go over this list with the teacher and they should discuss it together. Areas of strengths and weaknesses (in terms of project objectives) can be identified and used to plan for appropriate training where it is necessary.

Each specific project objective is listed below. After each objective are listed percentage figures. Think of 100% as representing consistent attainment of the objective and 0% as total failure to reach the objective. The other percentages represent varying degrees of partial attainment of the objective. Circle the number which best describes your own degree of success in attaining the objectives. If you do not agree that a given objective is desirable from your own standpoint, please place a large X to the left of the number of that objective.

1. Children work in small groups. (no more than 5 or 6 members).

100% 75% 50% 25% 0%

2. The small instructional groups are heterogeneous (Mixed with respect to ethnic background, sex, language competence, academic level).

100% 75% 50% 25% 0%

3. Specific instructional objectives are established for small group activities. (These objectives should be known by the <u>children</u> as well as by the teacher.)

100% 75% 50% 25% 0%

4. Instructions to the small groups are presented in writing.

100% 75% 50% 25% 0%

5. Child group leaders are used.

100% 75% 50% 25% 0%

6. The teacher aide acts in an instructional role.

100% 75% 50% 25% 0%

7. Children spend some of their time each day in free choice activities. (Please indicate the approximate percentage of time each day during which children are allowed to choose their own activities.)

100% 75% 50% 25% 0%

8. The teacher is able to identify skill levels of individual children. (This must necessarily involve keeping individual records of progress for each child).

100% 75% 50% 25% 0%

9. The child keeps some records of his own progress or if not, the teacher discusses her progress records with the child.

100% 75% 50% 25% 0%

10. The teacher asks for, encourages and reinforces peer teaching.

100% 75% 50% 25% 0%

11. The teacher encourages and reinforces children's oral language.

100% 75% 50% 25% 0%

12. The teacher identifies and teaches socialization skills (for example, cooperation, leadership, group participation, information seeking, task persistence).

100% 75% 50% 25% 0%

13. The teacher encourages and reinforces the children's use of Spanish in the classroom.

100% 75% 50% 25% 0%

14. The teacher is able to plan and carry out multi-cultural activities for the classroom.

100% 75% 50% 25% 0%

15. The teacher understands and uses positive reinforcement techniques in the classroom.

100% 75% 50% 25% 0%

REACTIONS OF TEACHERS AND AIDES AFTER USING LEADERSHIP AND GROUP PARTICIPATION TRAINING MANUAL

The training started around the end of March and was completed in April. At the end of the school year the aides and teachers sat down with the site coordinator and Dr. Marian Martin acting as a discussion leader and talked about their reactions to using this type of training in their classrooms. The following statements are quotations from this discussion:

1. Children enjoyed knowing what was expected of them in the groups. (T)

2. After the lessons everybody wanted to be a leader. Before the lessons only a few did. (T)

3. The children didn't seem to need my help as much. They could do things by themselves. (A)

4. The children became very responsible about their duties following the training. (T)

5. Children praised each others work more. They were nicer to each other. They were also more polite to each other. (A)

6. This training helped the groups work a lot better. (A)

7. The training should have started at the beginning of the year. I plan to start out next year with this training. (T)

8. The children are so anxious each day to start working in groups. They hate having a substitute teacher because the substitutes usually won't allow small groups. (T)

9. Reading the instructions aloud has worked very well. The children no longer ask - "What are we supposed to do?"(T)

10. The children have learned to ignore bad behavior. (A)

11. Children now explain the program to new children. New children are integrated more easily. (T)

12. Children know how to <u>help</u> each other now. (A)

13. Skills seem to have generalized to the playground. The children in these rooms are much better at organizing their own games than are children from other classrooms. (Site Coordinator)

14. The children are highly motivated. They want to start working the minute they come in the room. (T)

15. Evaluating the lesson is the most difficult skill. It seems to take too long. Perhaps it should not be done after every group activity but only on occasion. (T)

16. They don't have any trouble when instructions are written in Spanish. (T)

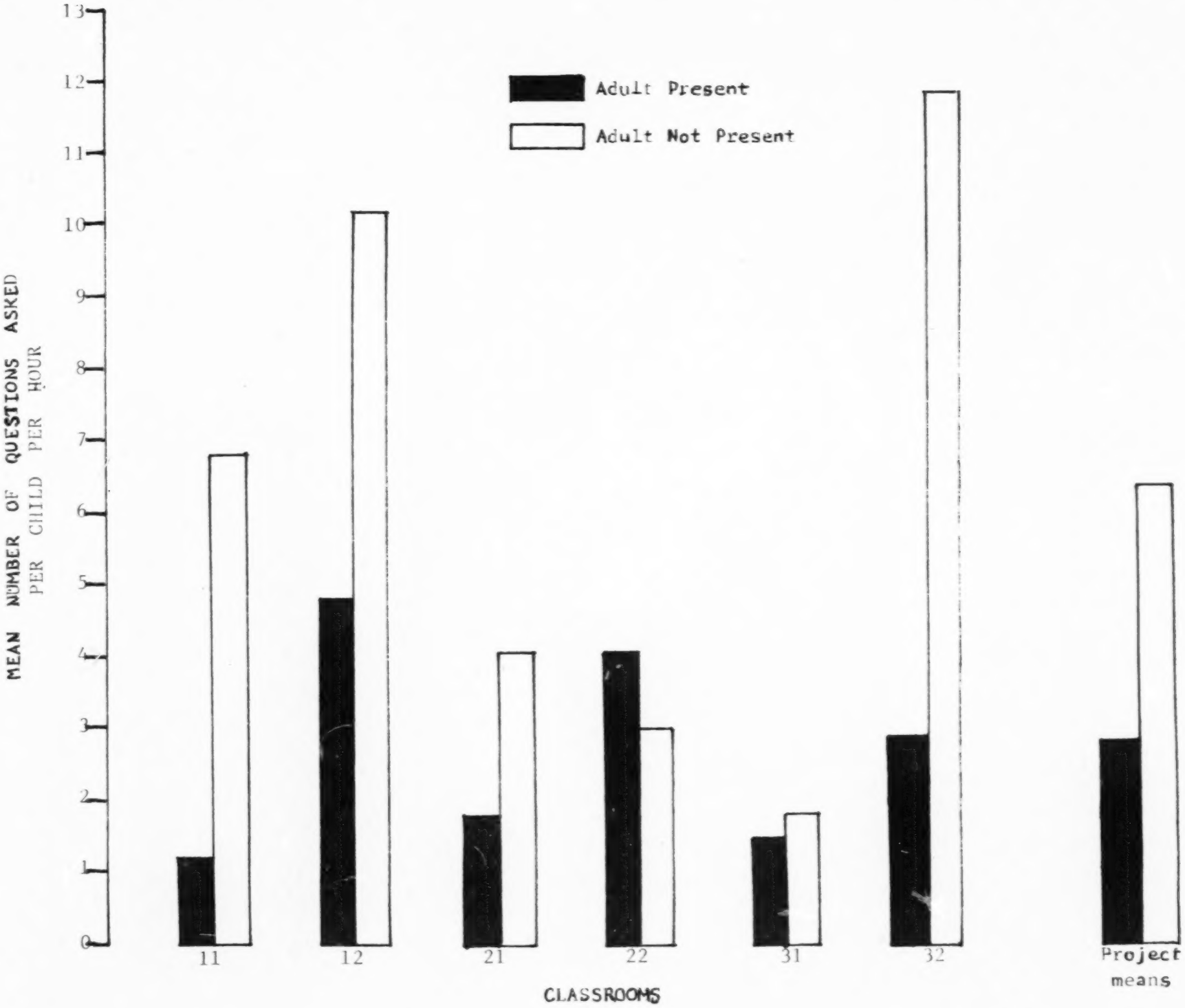
17. On thing that made training effective was that every child got the chance to practice all the behaviors during the training period. (T)

18. They've matured a lot. They're managing their own behaviors. (T)

19. Both teachers reported that they became bored at going through each lesson five times. However, they both said that we should be sure to say in the manual, "The results are worth it though.".

20. The children feel good about themselves. (A)

QUESTION ASKING



QUESTION ASKING SUMMARY SHEET

NUMBER OF QUESTIONS ASKED PER CHILD PER HOUR (YEARLY MEANS)

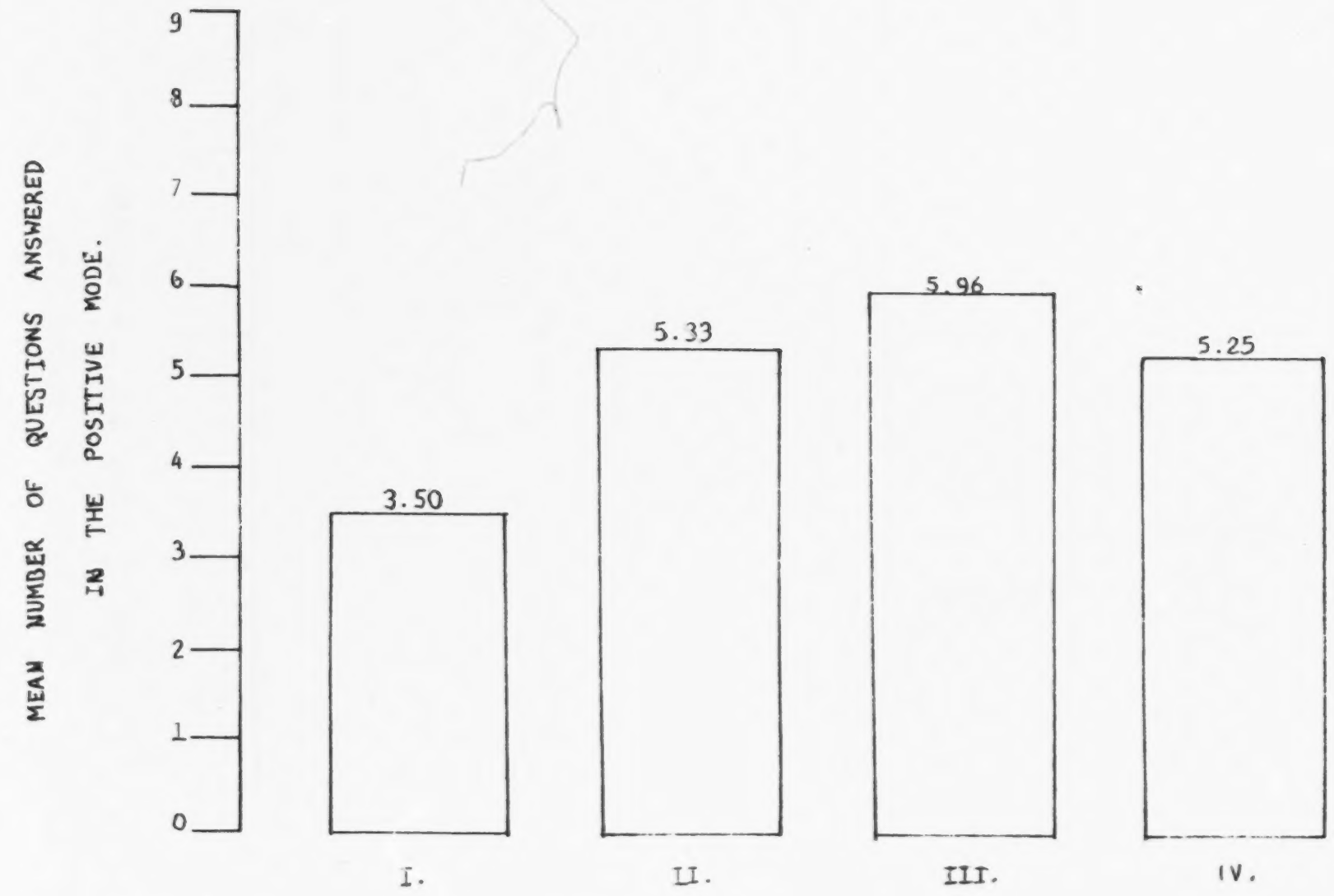
CLASSROOM	ADULT PRESENT						ADULT NOT PRESENT	
	Questions to a Child		Questions to an Adult		Total Questions		Questions to a Child	
	Small Group	Large Group	Small Group	Large Group	Small Group	Large Group	Small Group	Large Group
1-1	1.2	3.6	12.6	3.0	13.8	6.6	6.8	-
1-2	4.8	1.2	4.8	3.6	9.6	4.8	10.2	-
2-1	1.8	1.4	4.2	1.6	6.0	3.0	4.1	6.6
2-2	4.6	2.0	7.6	2.7	12.2	4.7	3.2	-
3-1	1.5	0.6	2.4	0.8	3.9	1.4	1.8	-
3-2	2.9	0.7	7.6	5.2	10.5	5.9	12.4	1.9
TOTAL PROJECT MEANS	2.8	1.6	6.5	2.8	9.3	4.4	6.4	4.3

HOURS OBSERVED

CLASSROOM	ADULT PRESENT		ADULT NOT PRESENT	
	Small Group	Large Group	Small Group	Large Group
1-1	4.2	1.8	2.7	0.0
1-2	1.0	0.9	4.2	0.0
2-1	2.0	2.8	1.8	0.1
2-2	1.9	2.8	3.4	0.0
3-1	3.7	8.5	7.2	0.0
3-2	4.9	13.1	2.7	0.1
TOTAL	17.7	29.9	22.0	0.2

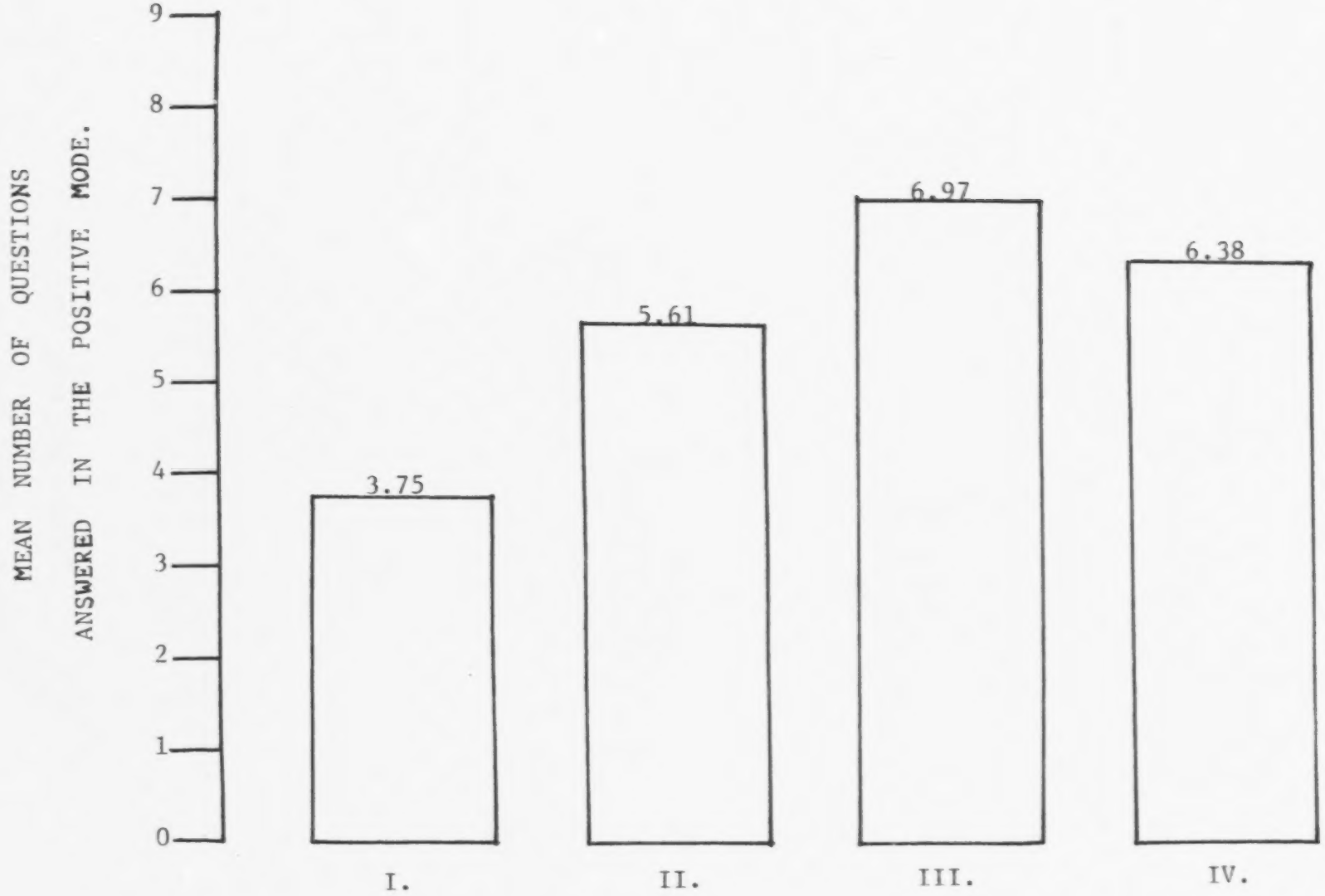
LEADERSHIP CHECKLIST

CLASSROOM 1

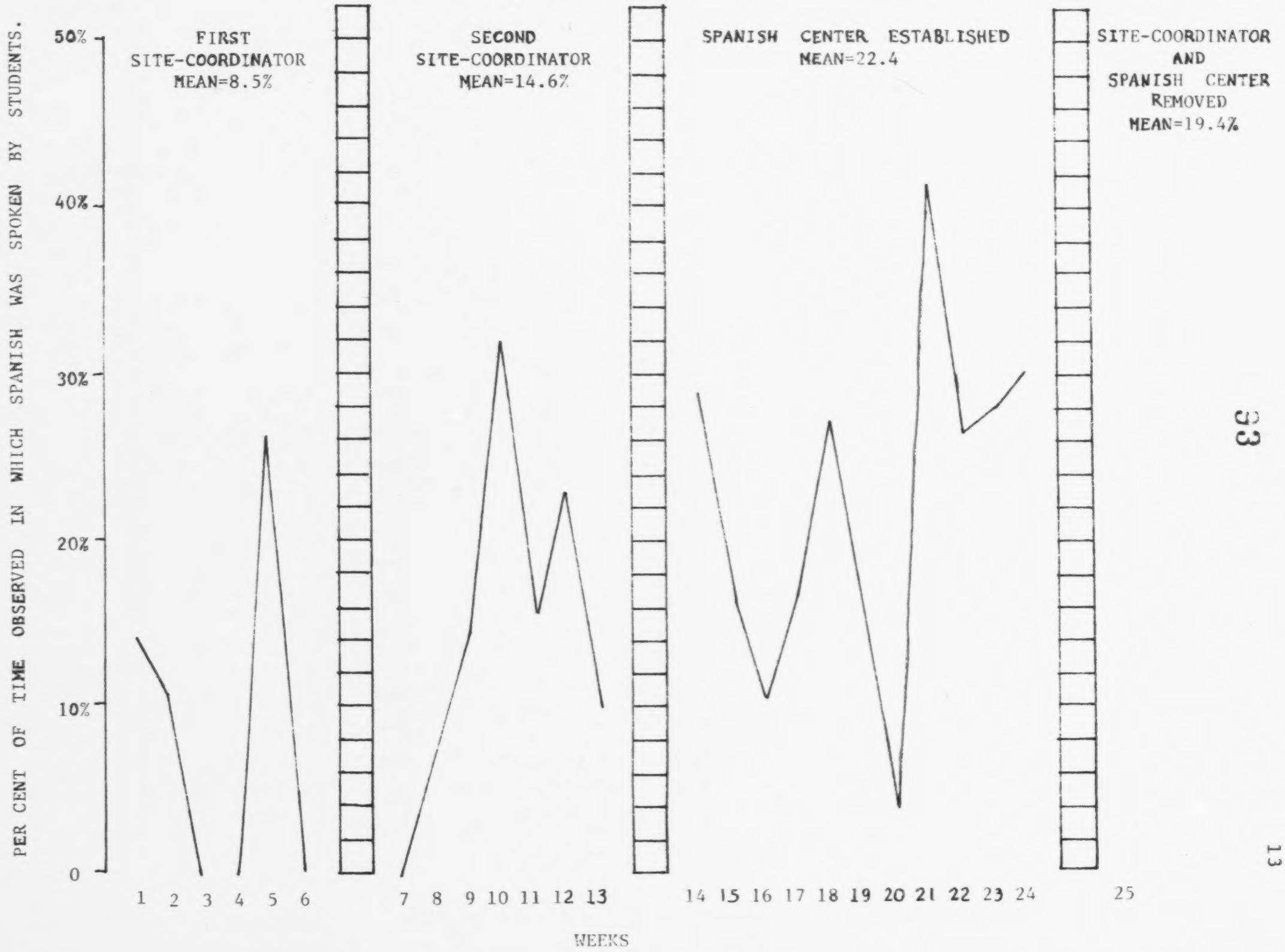


LEADERSHIP CHECKLIST

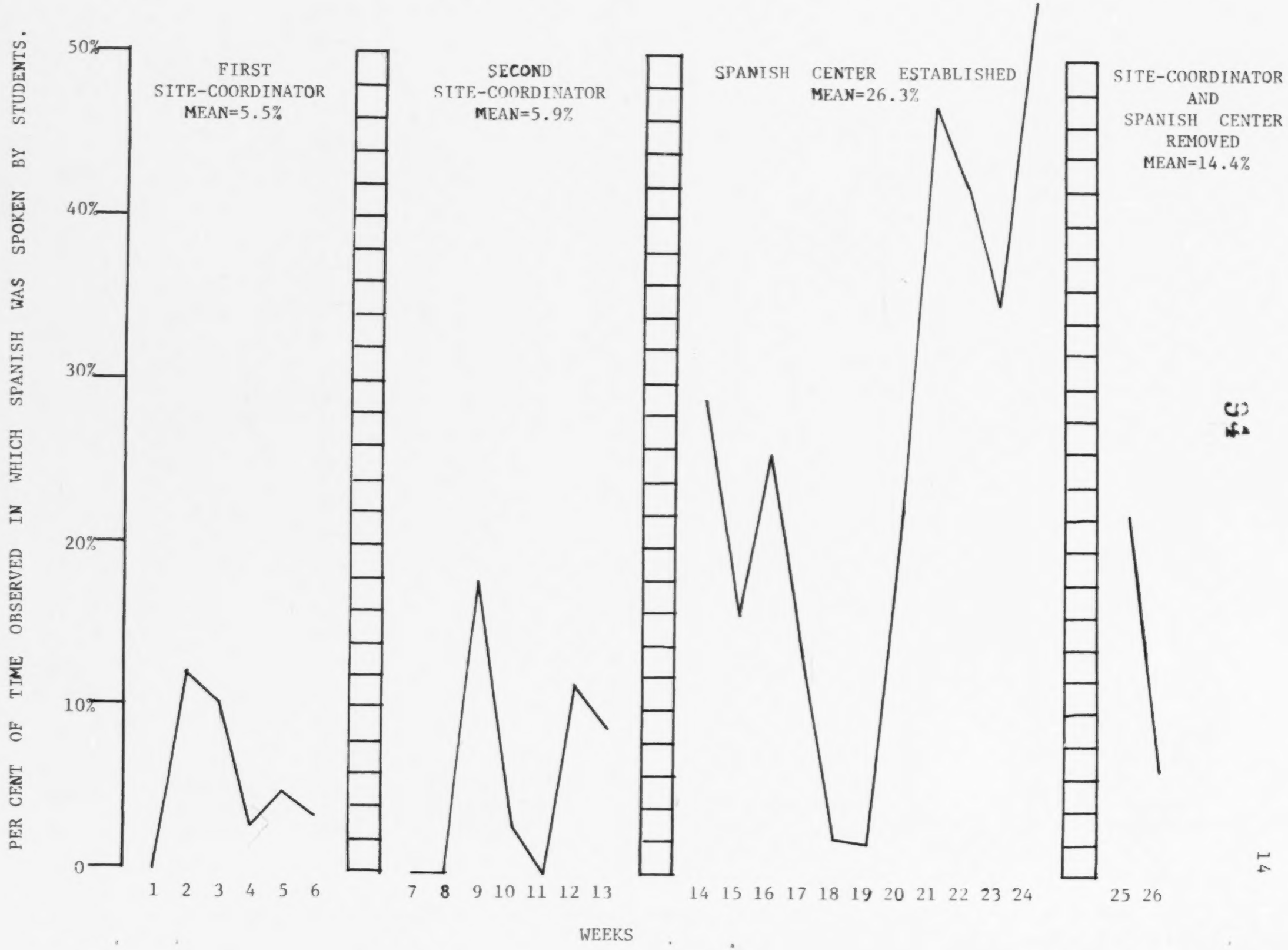
CLASSROOM 2



SPANISH USAGE BY STUDENTS: AS DEPICTED BY THE "DAILY EVENTS" OBSERVATION SCHEDULE FOR CLASSROOM 1.


PER CENT OF TIME OBSERVED IN WHICH SPANISH WAS SPOKEN BY STUDENTS.
50%
40%
30%
20%
10%
0
FIRST SITE-COORDINATOR MEAN=8.5%
SECOND SITE-COORDINATOR MEAN=14.6%
SPANISH CENTER ESTABLISHED MEAN=22.4
SITE-COORDINATOR AND SPANISH CENTER REMOVED MEAN=19.4%
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
WEEKS

SPANISH USAGE BY STUDENTS: AS DEPICTED BY THE "DAILY EVENTS" OBSERVATION SCHEDULE FOR CLASSROOM 2.


PER CENT OF TIME OBSERVED IN WHICH SPANISH WAS SPOKEN BY STUDENTS.
50%
40%
30%
20%
10%
0
FIRST SITE-COORDINATOR MEAN=5.5%
SECOND SITE-COORDINATOR MEAN=5.9%
SPANISH CENTER ESTABLISHED MEAN=26.3%
SITE-COORDINATOR AND SPANISH CENTER REMOVED MEAN=14.4%
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
WEEKS

LANGUAGE SAMPLE REPORT

CHANGES IN LANGUAGE PRODUCTION

CLASSROOM 1

	NUMBER OF WORDS USED TO DESCRIBE PICTURES		
CHILD	OCTOBER	APRIL	CHANGE
1	12	28	+ 16
2	24	33	+ 9
3	15	61	+ 46
4	10	21	+ 11
5	17	70	+ 53
6	16	27	+ 11
7	4	16	+ 12
8	26	19	- 7
9	16	45	+ 29
10	17	23	+ 6
11	27	14	- 13
12	17	25	+ 8
13	0	16	+ 16
14	13	33	+ 20
15	6	21	+ 15
16	11	14	+ 3
TOTALS	231	466	+235
MEANS	14.44	29.13	+14.06

LANGUAGE SAMPLE REPORT

CHANGES IN LANGUAGE PRODUCTION

CLASSROOM 2

	NUMBER OF WORDS USED TO DESCRIBE PICTURES		
CHILD	OCTOBER	APRIL	CHANGE
1	22	58	+ 36
2	23	60	+ 37
3	10	38	+ 28
4	17	28	+ 11
5	39	75	+ 36
6	9	48	+ 39
7	9	32	+ 23
8	23	15	- 8
9	24	141	+117
10	47	41	- 6
11	19	36	+ 17
12	28	44	+ 16
13	33	65	+ 32
14	17	24	+ 7
15	35	134	+ 99
16	35	54	+ 19
17	16	64	+ 48
18	20	65	+ 45
TOTALS	426	1022	+596
MEANS	23.67	56.78	+33.11

SELECTED LANGUAGE SAMPLES
OF
CHILDREN WITH MEXICAN-AMERICAN SURNAMES

I. OCTOBER

"The little girl is eating ice cream with the monkey. And the little girl bought ice cream for the monkey and her. That's all."

APRIL

"The girl bought an ice cream for her and her friend. The monkey is eating ice cream with his friend. The girl has long hair. The monkey has black hair. He gots small ears. He is eating his ice cream. His mouth is full of ice cream. He is holding his ice cream. He looks like a man. He has feet like a man. He has hands like his feet. He has little eyes. The girl is holding the ice cream like him. She doesn't have feet like him. She doesn't have hands like him. He has longer fingers. He has longer feet. He swings around in the zoo. The girl doesn't swing around like him. The ice cream is melting. He lives in the zoo and in the jungle too. But he doesn't take a bath in the shower."

II. OCTOBER

"The monkey and the girl's eating ice cream. The monkey and the girl's smiling together. The monkey has big ears. The monkey has ice cream on his mouth. The girl is whispering in his ear."

APRIL

"One day a little girl met a little monkey. He smiled and the little girl had some money. She had 20 cents. She bought two ice cream cones. They went to the beach for a little while. She had $3.00. After she sat on the beach she and the monkey went for rides on the roller coaster and the in the spooky warehouse. In the warehouse there was a little mouse squeeking. After they came out, they went on a ferris wheel. The monkey got scared and cried. When they got off, they went on the marry-go-round. The monkey held on and did flips. The girl tried it but fell off and hurt herself. The monkey got off and helped her. Her leg was broken. They took her to the hospital to fix her feet."

III. OCTOBER

"They're both having ice cream. The girl likes him. She wants him for a pet. He gots a crumby face. They're

sitting down in the sand. He gots big ears. His eyes are crumby. He gots hands like feet."

APRIL

"The monkey is eating ice cream with the girl. And the girl is sharing her ice cream with the monkey. They are happy because they are friends. She is touching the sand. The monkey has ice cream on his mouth. The monkey has some hair and the girl has hair too. The girl is touching the monkey's head. The monkey is closing his eyes. The girl got happy to share her ice cream with him."

IV. OCTOBER

"The monkey's always eating a banana and doing tricks and funny things. That looks like a scorpion."

APRIL

"The monkey gots a funny face. He always monks around. A scorpion is in front of him. He gots foots like a hand. He holds the ice cream for you. He looks like an old man. He gots a flat nose. There's a little girl beside him. They are playing together. He gots a lot of hair. He gots his eyes like an old man. He's eating the ice cream."

ANALYSIS OF VARIANCE

PEABODY VOCABULARY TEST

SOURCE	df	MS	F
Treatment (A)	1	232.418	.96
Sex (B)	1	539.708	2.24
A X B	1	20.005	4.23
Between error	151	241.185	
Trials (C)	1	40.220	19.92***
A X C	1	12.808	.18
B X C	1	138.809	1.92
A X B X C	1	268.093	3.71
Within error	151	72.302	

***p <.001

ARTOLA-STEWART SPANISH-ENGLISH VOCABULARY TEST

MEAN SCORES

ENGLISH COMPONENT

	FALL	SPRING
Program Group		
Mexican-American Males	55.95	56.93
Mexican-American Females	50.12	54.42
Non-Mexican-American Males	57.05	57.81
Non-Mexican-American Females	55.14	57.07
Control Group		
Mexican-American Males	55.56	56.61
Mexican-American Females	52.77	55.46
Non-Mexican-American Males	56.80	57.60
Non-Mexican-American Females	56.08	57.67

SPANISH COMPONENT

	FALL	SPRING
Program Group		
Mexican-American Males	12.69	15.83
Mexican-American Females	12.09	16.24
Control Group		
Mexican-American Males	11.11	12.56
Mexican-American Females	12.54	14.46

ANALYSIS OF VARIANCE

ARTOLA-STEWART SPANISH-ENGLISH VOCABULARY TEST

ENGLISH COMPONENT

SOURCE	df	MS	F
Treatment (A)	1	18.090	.014
Ethnicity (B)	1	333.889	.257
Sex (C)	1	267.228	.206
A X B	1	3.951	.003
A X C	1	45.078	.035
B X C	1	88.927	.068
A X B X C	1	6.390	.005
Between error	169	1299.210	
Trials (D)	1	219.340	12.091***
A X D	1	3.729	.206
B X D	1	17.240	.950
C X D	1	52.727	2.907
A X B X D	1	1.653	.091
A X C X D	1	4.742	.261
B X C X D	1	10.018	.552
A X B X C X D	1	1.884	.104
Within error	168	18.141	

***$p < .001$

ANALYSIS OF VARIANCE

ARTOLA-STEWART SPANISH-ENGLISH VOCABULARY TEST

SPANISH COMPONENT

SOURCE	df	MS	F
Treatment (A)	1	102.690	.25
Sex (B)	1	26.468	.06
A X B	1	33.274	.08
Between error	102	413.203	
Trials (C)	1	304.612	16.61***
A X C	1	41.321	2.25
B X C	1	5.927	.32
A X B X C	1	.753	.04
Within error	102	18.337	

***p <.001

PARENT QUESTIONNAIRE

The questionnaire was individually administered by a bilingual graduate student in social work to 45 Mexican-American families, 19 Anglo families and 11 black families. These families all had children in the project classrooms and represented all three schools. The questions are listed below and the results summarized.

QUESTION	% YES	% NO	% NO RESPONSE
1. Would you like both Spanish and English to be taught in the classroom?	98	1	1
2. Do you want your child to speak Spanish and English in the classroom?	98	1	1
3. Would you like your child to be taught to read in both Spanish and English?	93	1	6
4. Who speaks Spanish at home?			
Father	59	36	1
Mother	62	37	1
Other Children	41	55	4
5. If any part of number 4 is answered yes, ask the parent which language, Spanish or English, is spoken more frequently in the home.			
English 56%			
Spanish 24%			
Half and Half 20%			
6. Do you want your child to learn about customs and history of Mexicans in the Southwest?	98	1	1
7. Do you want your child to learn about customs and history of Negroes in the United States?	98	1	1
8. Does your child like school this year?	93	4	3

DESCRIPTION OF TEACHER'S MANUAL

A SMALL GROUP PROCESS APPROACH TO BILINGUAL, BICULTURAL EDUCATION

TARGET POPULATION:

I. Teachers in bilingual projects.

II. Administrators of bilingual projects.

OBJECTIVES:

I. To describe an innovative educational model for bilingual education.

II. To motivate the target population to try out this model.

III. To provide a manual that will give teachers the knowledge and skills to implement this model in the classroom.

A. To enable the target population to understand the natural language acquisition model of bilingual education and its relationship to the group process approach.

B. To impart information about the advantages of the group process approach.

C. To introduce teachers to information about skills children need to participate optimally in small groups.

D. To provide the teacher with the knowledge and skills to design an appropriate room environment to facilitate small group instruction. This will include the organization of materials and furniture into Learning Centers.

E. To acquaint teachers with alternative techniques for grouping procedures.

F. To acquaint teachers with appropriate activities for small groups.

G. To acquaint teachers with a new role model.

(1) Facilitator of learning rather than imparter of information.

(2) Allow children to learn from each other.

THE NATURAL METHOD OF LANGUAGE ACQUISITION

A Group Process Approach To Bilingual Education

This checklist was devised for the purpose of measuring the extent to which classroom environments and observable teacher and child behaviors reflect a particular approach to bilingual education. This approach is best described as the "Natural Method of Language Acquisition". This method is based on the viewpoint that children learn a language by hearing it spoken ("modeled") in the context of their daily activities, by being encouraged to use the language themselves and by being positively reinforced for such use.

Environmental settings and teacher behaviors which simulate the conditions of natural language acquisition can be defined and then measured. This checklist has been developed for these purposes. A teacher can use this checklist as a guide to evaluating her own progress in establishing the optimal environment for children to learn both Spanish and English by the Natural Method.

Small group instruction is emphasized because it is believed to facilitate language development by permitting increased peer interaction and language practice. The group process approach is an essential element of bilingual education based on the "Natural Method" of language acquisition.

Date:_____

CHECKLIST

YES	NO	COMMENTS	
			1. Are objects and furniture in the room labeled in both Spanish and English?
			2. Do children work in small groups most of the day? (This gives children more opportunities to interact verbally and practice language skills.)
			3. Are the small groups heterogenous with regard to children's dominant language, verbal facility and ethnic background? (This facilitates peer teaching.)
			4. Are there child leaders for the small groups? (This teaches self-management and leadership skills and also facilitates language practice.)

YES	NO	COMMENTS	
			5. Have children received training in group participation and leadership skills? (This ensures that children will benefit maximally from the group process approach.)
			6. Are there many books and other instructional materials written in both Spanish and English available in the classroom?
			7. Are instructions to the children written in both Spanish and English?
			8. Are both Spanish and English calendars displayed in the classroom?
			9. Are Spanish games and songs taught to the children?
			10. Does the teacher greet the children in both Spanish and English?
			11. Is Spanish, as well as English, used informally by the teacher (or a bilingual teacher aide if teacher does not speak Spanish) during the regular routines and activities of the day?
			12. Do the teacher and aide reinforce (give verbal approval to) children's oral language (Spanish as well as English)?
			13. Are books and stories frequently read aloud to the children in both Spanish and English?
			14. Are children encouraged to teach their dominant language to the other children in the classroom?
			15. Are activities planned for holidays representative of both the Mexican and the Anglo culture?
			16. Do children write their own stories in both Spanish and English and are both displayed in the classroom?
			17. Is communication with the home in both Spanish and English?
			18. Are report cards written in both Spanish and English?

CHECKLIST (Cont'd)

YES	NO	COMMENTS	
			19. Are visitors to the classroom greeted in both Spanish and English?
			20. Are children encouraged to verbally label objects in the environment and to describe their own actions in both languages?
			21. Are materials and activities presented which elicit a lot of language from the children?
			22. Are movies or video tapes shown in both Spanish and English and are they used for language development purposes?
			23. Do the children use both languages with the same frequency?
			24. Do the children seem interested in acquiring a second language?
			25. During free choice periods, do children choose Spanish language activities as frequently as they choose English language activities?
			26. Is oral and written language (both Spanish and English) encouraged and reinforced during all classroom activities?